THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. IX. ALBANY, N. Y., FEBRUARY, 1861. No. 2.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

AGENTS IN NEW-YORK:

C. M. SAXTON, BARKER & Co., Ag. Book Publishers, 25 Park Row.

THE CULTIVATOR has been published twenty-seven years. A NEW SERIES was commenced in 1853, and the eight volumes for 1853, 4, 5, 6, 7, 8, 9 and 60, can be furnished, bound and post-paid, at $1.00 each.

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"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two vols. yearly of 416 pages, at $2.00 per year, is issued by the same publishers.

Editorial Notes Abroad.

No. XXXVII---Farming in East Lothian.

In writing out, several months ago, my Notes upon the Agriculture of the County of Norfolk, in England, I took the opportunity to present a little sketch of the production of its whole area, based upon statistical computations, and affording, as it seemed to me, the most striking evidence of the degree of excellence its Farming has attained. In consulting the memoranda of the Journey, to ascertain what gaps still remain unfilled in these records of its history, there is one district, rivalling Norfolk in its agricultural superiority so closely, that each has sometimes claimed to surpass the other, which appears to have scarcely had as yet that attention from us which its prominence so clearly demands. I allude to the county formerly known under the name which appears in our title, but now more correctly designated as Haddingtonshire, in Scotland—a county where we shall be aided in taking a general agricultural survey by the carefully collected statistics obtained under the supervision of the Highland and Agricultural Society, which in point of accuracy and in the character of those who collected them, deserve a measure of confidence and weight that cannot always be accorded even to governmental returns.

I need only mention, for instance, that GEORGE HOPE, Esq., of Fenton Barns—to whom I had been favored with an introductory letter by the politeness of Mr. COBDEN, and with regard to whose extensive farming operations I shall soon have some details to offer—was the enumerator of these statistics in his district, to show into how good hands the task was committed; and it is to Mr. HOPE himself that I am indebted for the following facts, as noted down in conversation, or as included in the Statistical Report he gave me, for the season of 1856, and published in December of that year for the Board of Trade.

East Lothian, then, or Haddingtonshire, contains 457 occupants who pay an annual rent of $50 (£10) or over, upon 100,435 acres of arable land subject to rotation of crops; in other words, their holdings average 220 acres each, nearly or almost three times the average size of farms for the whole surface of Scotland, as the aggregate returns of all its 32 shires show a fraction less than 83 acres only, to each holding. These farms are cultivated by or support,

Horses for Agricultural Purposes above three years old,	3,353
do. do. do. under three years old,	570
All other Horses,	749
Total,	4,672

Which is not quite equal to four "agricultural horses," young and old, for each hundred acres of tilled land. As regards other stock, there were—

Milk cows,	2,086	Sheep for Breeding,	29,347
Other cattle,	6,399	Sheep for Feeding,	32,324
Calves,	1,437	Lambs,	32,453
Total cattle,	9,922	Total Sheep,	94,124

And, adding 4,923 Swine, an aggregate of all live stock, 113,641 head. This is equivalent to about 94 sheep, and nearly ten cattle and five pigs, all ages included, to each 100 acres,—a result not very different from that obtained in examining the agriculture of Norfolk. (Co. GENT. March 22, 1860.)

Directing his attention to this amount of live stock, where the great object of his pursuit is the *production of grain*, the farmer in East Lothian, for each hundred acres of his holding, had—avoiding minute fractions—

In Wheat,	19 acres.
In Barley,	10 do.
In Oats,	16 do.
Vetches, turnip-seed, rye, &c.,	1 do.
Total under white crops,	46 acres.
In Beans and Peas,	4½ acre
In Turnips,	16½ do.
In Potatoes,	6 do.
Summer fallow and other roots,	1½ do.
Total under green crops,	28 acres.
Add Grass and Hay under rotation,	26 do.
Total,	100 acres.

And obtained in 1856, when crops generally were no better, indeed perhaps scarcely as good as usual—average returns as follows:

Wheat, 28 bushels 0¾ pecks per acre.
Barley, 39 bushels 3½ pecks per acre.
Oats, 43 bushels 1¾ pecks per acre.
Beans and Peas, 28 bushels 2¼ pecks per acre.
And of turnips, 14 tons 12¾ cwt. per acre.

In speaking, however, of the agriculture of East Lothian, it should be borne in mind that the rougher and less favorable farming lands in the southern part, must operate to lower the average results of the whole county very materially. Thus in Mr. Hope's immediate district, comprising Aberlady, Athelstaneford, Dirleton, and North Berwick, the average wheat crop was 31 bushels 3 pecks per acre; barley 44 bushels 2 pecks; oats 52 bushels 1½ pecks in 1856, and 57 bushels in 1855, and the average turnip crop was 19 tons per acre. But taking the whole county just as it stands, what an immense aggregate production we have for not very much more than a hundred

thousand acres of arable land—a production which Mr. Secretary MAXWELL computes as follows:

Wheat,	541,933 bushels.
Barley,	404,642 do.
Oats,	680,199 do.
Beans and Peas,	125,775 do.
Turnips,	239,740 tons.

Or to take a broader surface still, and include the whole 32 counties of Scotland, "Highland and Lowland, far and near," and place the Agricultural Statistics there collected in 1856, side by side with those obtained for the State of New-York in 1855, and we have the startling result that New-York, with thirteen million and a half acres, (13,657,490) of improved land, against only *three millions and a half* (3,545,191) in Scotland, produces but nine millions bushels of wheat, both spring and winter, (9,092,-400,) against her seven millions of bushels (7,270,952;) but 27 milions (27,015,296) bushels of oats against her 32 millions (31,966,381;) but three and a half millions bushels of barley (3,563,540,) against her five millions and a half (5,581,970;) while, possessing as she does nearly four times the "improved" agricultural area of Scotland, she has not much more than twice the number of cattle (2,-105,465 against 967,047,) and only about three-fifths as many sheep (3,217,024 against 5,816,560.) Indeed, the total live stock of New-York State, with her 13 millions of acres of improved land, including horses, cattle, swine and sheep, numbers 6,971,996 head, against an aggregate of 7,090,384 head on the 3½ millions acres of Scotland. As to the *total areas* of Scotland and the State of New-York, respectively, the former has about 20,000,000 acres and the latter 26,758,000—not one-fourth of Scotland being capable of cultivation, although many of her wild lands must be devoted to sheep, while nearly one-half of New-York is already rated as "improved." But the above figures as regards the crops and stock of the two countries, appear to indicate a difference of opinion, or at least of *practice*, as regards what constitutes agricultural "improvement."

The object, therefore, of presenting such figures as these, is first and chiefly because a contrast so marked can scarcely fail to lead any intelligent American Cultivator to ask himself why such differences should exist, and whether there is not room for enlarged production on his part? Admitting as we must, most freely, that because the farmers of Great Britain can and do excel us so far in the amount of stock they fatten and crops they raise,—does not prove absolutely, either that we can equal them, or that it "would pay" our farmers to attempt it,—there is still one point which cannot be overlooked:—Ought we not, in justice to ourselves, to carry out such improvements as have been proved in our own American practice, to be paying ones? or, if we insist upon adhering to our old ways—if such statements as to what other countries, in other ways, can be made to produce, are at once to be thrown aside as the unnatural growth of an old and overpopulous territory—let us at least keep such FARM ACCOUNTS as shall enable us to hold up *our* figures to other nations, and tell them in turn—in vindication of Yankee sagacity and good sense—"We *are* farming, now, so as to make the most money we can in our present circumstances."

It is, indeed, very certain that the general production of our country, or of any one State, can only be enlarged by better *individual* practice, and no less certain that it is the question of pecuniary return, rightly considered, which decides whether one kind of practice is, or is not, *better* than any other. And regarding it, as we do, the great end of all Agricultural reading (and writing) to lead the reader to *think for himself*,—it is our aim to present those facts which seem most likely to promote this end; of all such facts there are, perhaps, none better calculated to arrest attention and awaken thought, than those afforded by trustworthy statistics, fairly stated and interpreted.

— Having thus glanced, very briefly, at the general results accomplished in the Agriculture of East Lothian, let me now proceed to give, as an instance of the operations going on upon a single farm, some details of the practice at Fenton Barns,—affording as this farm probably does, as excellent an example of *good farming for practical purposes*, as any other, either in its own district, or, so far as my own observation extends, in the whole United Kingdom. I visited Mr. Hope in one of the busiest seasons of the year for any farmer,—just as harvest was beginning to require the utmost attention, (August 8, 9, 1859) and can only regret, on this occasion as on several others, that my report must do so little justice to the time he so kindly devoted to answering my questions and showing me all that I most desired to see, both at Fenton Barns and in a drive to his distant Dirleton farm.

If I am not mistaken, Mr. Hope prefers the following rotation, which is as will be seen, a seven-year course: 1, grass; 2, oats; 3, beans; 4, wheat; 5, turnips; 6, potatoes, and, 7, wheat. The following was the disposition partially, of the 670 acres or thereabouts, which he cultivates:—

Wheat,	135 acres.	Turnips,	105 acres.
Barley,	20 "	Potatoes,	83 "
Oats,	100 "	Mangolds,	11 "
Turnip Seed,	4 "	Cabbage,	5 "
Beans,	57 "	Grass land,	125 "

About 90 acres of the grass land was pasturage—the remainder mown for hay. The bean and turnip lands receive all the manure that is made on the farm, while the turnips and potatoes, and sometimes the grass, have also a dressing of guano or superphosphate. The mixture of "seeds" preferred, is about 14 lbs. of red clover, 4 of white clover, 2 of yellow, or trefoil, and 2 of alsike clover to half-a-bushel of rye grass. He began tile draining here about 1833 or '34, continuing the process from time to time for eight years—first every fourth furrow, (the "furrows" are 18 feet apart;) then every second furrow, and finally putting down a drain under every furrow, that is every 18 feet—generally at a depth of two and a half feet, sometimes however carrying down every fourth line of drain to a greater depth than this, say three and a half or four feet. The cost of the process had aggregated about £2,500 (say $12,500.)

I understood that Mr. Hope's grandfather first occupied the Fenton Barns farm in 1772, since which it has remained in the cultivation of the same family. A part remained in open moor for many years later than the above date, and it was not until 1836, if my notes are not at fault, that Mr. Hope first tried some experiments in the reclamation of the yellow sands then thought worthless, by applying bones, growing a crop of turnips, and feeding them off to sheep on the ground, with liberal supplies of linseed cake—the experiment proving almost unexpectedly successful, for the sheep, having been bought well and sold well, returned him not only the cost of the oil-cake but also about £10 per acre for his turnip crop.

The character of the soil varies considerably—including stiff or clayey loam, light loam or sandy upper soil, mostly resting upon a subsoil of compact clay. The object of the draining above referred to, was to get rid of the surface water—the land had been drained in the days of the

father of the present Mr. Hope, to cut off springs, with stone, very thoroughly and at great expense.

There are generally about a hundred head of cattle kept during the winter season—perhaps remaining on the place altogether six or seven months. Two-year olds are bought for feeding at from £12 to £15—selling when fattened for from £20 to £25—sometimes perhaps for £10 per head above the first cost, but if £8 is averaged it is doing pretty well. The great point in feeding cattle, as I understood Mr. HOPE's experience, was to adjust properly the kind and quantity of the food to the condition of the animal; not giving too strong food, for example, at first—beginning say with a few turnips, proceeding afterward to more turnips with some potatoes, and, at a later day, to bean or other meal with chaff, and concluding with five or six weeks of oil meal. Sometimes indeed oil meal is fed for the last two months—at first at the rate of about three pounds per head per day, and increasing by degrees to five pounds per head, and in here and there a case perhaps to six. The turnips are continued while the cake is fed, also from three to five pounds per head of some kind of meal. Mr. H. likes to grow mangolds enough, as they keep better than turnips, to last after the latter begin to go, until there is a bite of grass ready. He seemed to think that oil cake was all-important, not so much for the flesh it makes itself, as to give an outside finish to the flesh put on already by other feed, and he gave this rule as comprising the true economy of feeding—*To make each month's food successively richer than the one before it.* And this as to farming—"Manure, manure, manure, and you may farm as you like," said he; "but the great problem also is *to keep the land clean as cheaply as possible.*" Two green crops in succession he thought the best way to accomplish this.

What are known and often mentioned as "fiar's prices," are annually taken in Scotland in this way: during the last week in February and first three weeks in March, each sheriff summons perhaps a third of the farmers to send in schedules of all their sales of wheat, barley and oats, sold within the county for cash since the preceding harvest—the average of these sales for each kind of grain, constitutes the "fiar's price" for the year, and may be legally paid, if I am not mistaken, in commutation, where rents or other charges were originally made payable in grain. Few Scotch estates, I believe, are free from some slight charge of this sort; it being the theory that all lands are held primarily of the government or the king, and this payment being merely a kind of formal, or perhaps feudal, acknowledgment of original proprietorship or present superiority—here and there, on a "freehold" estate, having been bought off, it may be, by some one payment, or donated in return for service to the crown. Nisbet Hamilton, a large proprietor in East Lothian, and I believe Mr. HOPE's Landlord, with an annual income from the land he there owns, rated at about £30,000, might have, for example, to pay £20 a year to the crown, and as this kind of payment has been long made in money rather than in produce, the "fiar's prices" extend back for many years, and afford an interesting way of comparing present prices with those of periods gone by.

Mr. Hope is a Director of the "United East Lothian Agricultural Society," to quote its title at length—a body answering very nearly to one of our county Societies. He presented me with a copy of its Report for the preceding year, and a few facts with regard to its system of operations I am sure will be read with interest—the more particularly as they bring to light one incidental, but, as it seems to me, very important advantage in the institution of *Market Days*, which have of late begun to attract considerable attention here—namely, that by bringing the farmers of a county, or even of a less extensive district, together once a month, or more or less frequently, for the transaction of business, these Market Days put within the reach of Agricultural Societies and farmers, some means of improvement otherwise much less accessible.

For instance, the East Lothian Agricultural Society takes advantage of these periodical gatherings for the purpose of holding several shows in the course of the season, which must contribute most effectively to the usefulness of such an association, but which of themselves would hardly be likely to attract attendance from a distance, or where coming entailed any expense, without the additional attraction of market-day business. For instance, the 5th of March, a meeting was held at which prizes of $10 each were offered respectively for seed grains, as follows: spring wheat, the Chevalier barley, any other approved variety of barley—the potato, late Angus, Hopetown, and any other improved variety of oats—best beans, and lastly, for the best assortment of grass seeds, comprising eight bushels each of "red and white clover, annual, perennial, and Italian rye grass." The quantity of seed grains required for competition is ten quarters or eighty bushels. A second show was held the 12th of March, when prizes were offered for fat and breeding stock, including bulls, (Short-Horns,) stallions and swine—a prize of no less than £50 ($250) being offered for the best draught stallion, with the condition, undoubtedly, that he should remain for service in the county. By varying such prizes as this, as occasion may demand from year to year, it will be easily understood how a Society may become the engine of accomplishing great good. The exhibition was held at Salton, away from the market town, July 6th, and there prizes were offered for brood mares for draught and for the road, for entire colts, geldings and fillies, for cows and heifers (Short-Horn) and several classes of Leicester and South-Down sheep.

Two more exhibitions conclude the list—one October 1, when five prizes were offered for seed winter wheats; and the fifth and last, December 17th, when a dozen prizes were offered upon roots and root crops, including eight for best sample twelve roots of different sorts, and the other four for best five-acre crops. Here we have a programme affording due encouragement for improved seeds, as well as improved stock, excellently calculated to serve as a model for adaptation by our county societies, either in addition to their present autumn exhibitions, or in some cases as a substitute for them—serving, as I think it must, to keep the interests of the society constantly in the minds of the farming community, as well as to promote mutual intercourse and a friendly rivalry. East Lothian, as we have seen, has not quite five hundred farmers, of whom it appears that about two hundred are members of this society—the lowest membership fee being half a guinea, or $2.50, while the larger farmers all pay twice this sum, and the proprietors according to their generosity—several putting down their names for $50, (10 guineas,) and one, the Marquis of Tweeddale, for $75. From the treasurer's report I learn that the Society sustains a reading room, although how extensive a one I was not informed, and pays its only salary ($125) to a secretary.

From his prominent position as an Agriculturist, Mr. HOPE is constantly visited by strangers in pursuit of agricultural information, until the matter has actually become quite a serious tax upon his time and good nature. The well known Fenton wheat was originated on the farm, and in a way worth mentioning, in conclusion, although it has been published before in numerous periodicals: in 1835 as, with his father, Mr. Hope was passing a quarry on the farm, the former observed in the centre of it three ears of wheat growing from one root, upon the fragments of rock and soil there collected, and as it was made the subject of remark at the time, by his desire the ears were watched until ripe and their produce planted from year to year. When enabled to sow it in quantities, and to compare it with other sorts, it was found "obviously distinct" both from Hunter's wheat, which it had been thought at first to resemble, and from any other sort known to Mr. H. It is a variety particularly remarkable for the shortness and stiffness or density of the straw; for while its bulk of straw appears to be always less than in Hunter's wheat for instance, the new variety was in numerous trials found to give a *weight* of straw equally great. As to grain, it surpasses all other white wheat in production, there, and the character of the straw, as above described, makes it a peculiarly suitable variety for the richest and most highly cultivated farming lands, where its "short, solid, firm straw" will keep it standing when other kinds would fail from the very fact of the richness of the soil. L. H. T.

How to Increase the Fertility of Soils.

NEAR GENEVA, Dec, 25th, 1860.

MESSRS. EDITORS—I notice that the Hon. R. M. CONKLIN of Cold Spring Harbor, in reviewing my remarks on Long-Island Farming, seems desirous of knowing how I have managed to keep up or increase the fertility of my farm without resorting to foreign manures. There is no difficulty in doing that on all our clay subsoils in this part of the state. In the first place you must feed your stock well all the year, and keep them improving both in summer and in winter. Keep them in yards from the time the pasture wont afford them a sufficiency in the autumn, until there is pasture enough in spring to support them fully. Then apply the manure made in winter, and *take care not to overstock your pasture land* in summer, as by so doing you are not improving nor resting your land by letting it lay in grass, if it is all eaten off as fast as it grows. Let the land be covered with grass or clover, and it is getting fat daily, and so will the stock. I also have sown one bushel of plaster, (gypsum) to the acre, on all my meadows and pasture land ever since I commenced farming here.

By rigidly following up the foregoing system, my farm has become far more productive now than it was thirty-five years ago, producing double the quantity of hay and pasture, and corn or oats, and the wheat crop is also more productive; but as I have often said, high manuring is not required for wheat. If we had always dry summers, wheat would stand much higher manuring, but we do not know what the summer is to be until it is past; therefore it is safest to manure only moderately for wheat. For corn or grass I have never reached the point where I thought too much was applied.

J. W. CLARKE wrote a very sensible letter, published in COUNTRY GENTLEMAN, on over manuring; at least I thought it sensible, because I had sometimes erred in manuring too highly for the small grains.

Now let me tell Mr. CONKLIN what I saw on Long-Island that I did not take notice of in my article on that Island. I went into a field where there was quite a number of cattle—perhaps 20 or 30, and partly full grades from the improved breeds. Although in the month of November, when cattle are generally in good condition if they ever are, these were then poorer than any I ever owned in the month of April. The fact is, many would have been dear as a gift, for wintering over in Western New-York, for the reason that good cattle could have been bought which would have paid more for their keep than those poor animals were likely to be worth in spring with the same feed. It was a wonder to me how they could live on such pustures, as it would have taken a man with a pair of good forceps or pinchers, to get hold of the grass, and how the cattle could catch it with their teeth, I could not understand. Now any man can easily perceive that such a way of conducting farming must be ruinous every way.

I also went into another field where some blooded mares and colts were pasturing, where the grass was no better; but I have heard gentlemen argue, that to make good and hardy horses, they must be kept poor in their youth. One gentleman, who I thought very intelligent in many things, to prove his argument, said there was the Scotchman raised on his oat meal *crowdy*, and the Irishman raised on potatoes, and where would I find healthier or hardier men when they were at their growth than these? I admitted this, but told him if he would feed his young horses liberally with oat meal and potatoes, he would take more pleasure in looking at them, and I was sure they would be better formed animals when fully grown. The best breed of cattle, sheep and horses, can be made a bad breed by poor keeping for a succession of years. Poor starved animals cannot produce good stock any more than poor land can produce good crops, and it is folly to expect it; yet I am convinced that breeding stock can be kept in too good condition, but that is very seldom the case in this State.

I should like to hear of some of the hill farmers in my native country, trying the experiment of feeding half a pound of oats or peas to each sheep daily, from the commencement of winter until May, for at least two years, and note and publish the result. I am convinced it would pay abundantly, and if they would give them some hay, still better. Good feeding must pay, but bad feeding *never*.

This buying of dung at city prices may pay, and I suppose does, to raise vegetables for New-York or other large cities, but I cannot believe that it can pay to raise grain or grass. It is something like a farmer buying his bread and meat. I know that every farmer can, in this part of the country, make manure enough to keep up the fertility of his farm with stock and clover if he tries to do it. I have kept about one-third, and sometimes one-half of my farm in grain crops yearly since I owned it, and the result is that it is far more productive than when I commenced on it; and every one that knows it now and knew it then, knows that what I write is true. Manure, however, will be consumed much sooner in much of the land I saw on Long Island, than on our drained clay lands in this part of the State: but I have made this article far too long and will stop. JOHN JOHNSTON.

Friend JOHNSTON need have no fear of making his communications too long. He may rest assured that whatever he writes is always perused with great interest by our readers.

KEEPING FARM ACCOUNTS.—We were much interested recently in looking over the farm-book of a friend, which was so kept as to enable him to calculate the expense of growing the different crops upon the farm. The cost of manure, cultivation, seed, harvesting and marketing, as well as rent and taxes, was set off against the value of the product as sold or consumed upon the farm; and it was to be seen at a glance what paid best and what least, and where in one case $10 expended in manuring half a field, gave a return of 150 per cent. upon the outlay. Such information is not only interesting but important to every farmer, and can be secured at the trifling trouble of "keeping an account with the farm."

THE MOLE PLOW IN OHIO.

STATE AG. ROOMS, Columbus, Ohio, Dec. 16, 1860.

EDS. CO. GENT.—In March last I sent you a brief account of the Mole Plow and its operations in Ohio. A portion of my statement was reviewed by your correspondent "ACER," in your issue of March 29, 1860. I put that No. of the Co. GENT. aside, intending to reply to ACER at the time, but neglected to do so, and had forgotten all about it until this morning I accidentally found the No. containing his remarks. He intimates that I am mistaken with regard to the draft. I stated that a common plow, cutting a furrow-slice 8 by 12 inches, required a draft of about 500 pounds. I have frequently taken the Dynamometer (the property of the Ohio State Board of Agriculture,) and attached it to Mr. Gill's plows, in order to determine the draft. ACER concedes the draft of the ordinary plow as stated by me to be correct. I used the same Dynamometer one half day near London, Madison county, in testing the draft of two or three mole plows, and in July, 1859, spent three entire days at the same place in testing the draft of reaping and mowing machines and mole plows, (vide Ohio Farmer for July 16, 1859.) No one disputed the draft of reapers and mowers ranging from 200 to 350 pounds; but we all were somewhat surprised at the comparative light draft of the mole plows.* The dynamometer was carefully observed by the entire committee, consisting of Matthew Rea, R. Cowling, Jas. J. Jones, John G. Dun, Charles Phillis, Jacob Crisman, ——— Armstrong, and myself as chairman, and we could not *all*, during the entire three days, be laboring under a mistake with regard to the draft, when we all in rotation observed the dial of the dynamometer.

I stated that a gentleman under oath in the U. S. District Court, stated that 1,000 rods of drains were made per day with the mole plow. I supposed the gentleman was mistaken, and suggested to the examining attorney to repeat the question; he did so, and the witness answered as promptly as before, 1,000 rods. On this point, although unwilling to impeach the testimony of the witness, I am not any more satisfied than is ACER.

But the gentleman on the witness-stand, must have a very *slow* team if he could do no more than drain about three miles per day, when H. R. JEROME of Monroeville, Ohio, states (vide Co. GENT. for May 31, 1860, page 347,) that "on prairie lands from 10 to 18 miles can be made in a day."

The truth is, about 100 rods per day is as much as can be well made under favorable circumstances.

During the past two years, about four hundred miles of underdrains have been constructed with the mole plow in Fayette, Clinton and Madison counties. On one tract in Fayette Co., which before it was drained produced twelve bushels of corn per acre only, after it was underdrained by the mole plow, produced from 66 to 86 bushels per acre.

Experience with the mole plow has demonstrated that the drains must not have too much fall—if they have more fall than is just necessary to carry off the water the drains "wash," and in a short time they become useless.

Notwithstanding the great satisfaction manifested by our farmers with the results of the mole plow, I cannot regard it in any other light than as being merely a temporary expedient; but it accomplishes great good notwithstanding, because it demonstrates the utility of underdraining, and proves to our farmers that "Book Farming" must not always be ignored. JNO. H. KLIPPART.

* The actual draft of the mole plows, or rather the power required to operate them, is 5,568 pounds, including friction. This result is obtained by a simple mathematical process:

225 (the Power indicated by the Dynamometer,) MULTIPLIED BY 198 (the inches in lever,) DIVIDED BY 8 (the inches in radius of capstan,) IS EQUAL TO 5,568 (the weight of object moved.) Vide Olmsted's Philosophy, page 99.

Or, in other words, "multiply the power applied at the extreme end of the lever, by the length of the lever, (measuring from the centre of the capstan,) in inches; and divide the product by half the diameter of the capstan, the quotient is the weight that the power will raise, friction not being taken into account."—SCRIBNER.

How to Get most Peaches from a Given Space.

On a light sandy soil, worn and washed to within 3 or 4 inches of a yellow clay subsoil, I have an orchard of thriftless peach trees. I have seen it stated somewhere that peaches would not do well on the site of an *old* peach orchard. Mine have been standing perhaps 5 years, but have not attained sufficient vigor to seriously affect the soil unless immediately at the roots. I wish to make a new peach orchard on the same ground, and, as far as advisable, to leave the old trees until the new come to bearing. 1. What will be the objections to thus using the same ground? 2. What will be the best preparation of the soil, the trees to be set in Nov. 1861? 3. How close can the trees be planted if a system of close "shortening" is to be followed, and they are to have all profitable cultivation? 4. What crops and culture, after planting, will make the peaches pay best? 5. What manure will be best, how much, when and how applied? 6. Will it be necessary to remove *now* an old tree which is in the future position of a new one, or can it remain to make another crop? 7. How long can an old tree remain at any given distance from a new one? 8. Can its injury to an adjacent young tree be prevented by a trench? 9. If yes, how and to what extent? Answers, through THE CULTIVATOR, requested to all or any. B. *Latitude* 35°.

Peach trees are very exhausting to the soil—as an example, we have seen the place of every principal root, of a row of young peach trees, distinctly marked across a strawberry bed by the diminished growth of the plants. But if the orchard alluded to by our correspondent, has made but little growth in the five years, or has been neglected, the soil will be less exhausted than if the trees had grown vigorously. At the north, the difference between well cultivated peach trees and those standing in grass, is at least ten to one; that is, a properly treated tree will grow as much in one summer as one in grass will grow in ten. This may seem like a extravagant assertion; but it is founded on fact and measurement. A good five year orchard will have covered the whole of the ground with its net-work of roots, if the trees are not over 25 feet apart. Hence, setting young trees in between, as proposed, would not be so well as on new ground. But if the ground is properly manured and kept well cultivated, this drawback will be overcome, and the trees will flourish finely.

(2.) The best preparation of the soil will be the application of such fertilizers as have proved best for common crops—probably a moderate dressing of yard manure, with a small portion of ashes or lime.

(3.) Where land is abundant and cheap, 20 feet is a good distance. The top should not extend over 12 feet, the remaining 8 feet being useful for the admission of air and light all around each tree, and for allowing more room for the extension of the roots. Yet as near as 12 feet would answer, the soil to be kept constantly in good cultivation, with occasional dressings of manure.

(4.) The best crop, if any, while the trees are small, are potatoes, cabbages, or any other low *hoeil* crop—no *sowed* crop will answer at all. A wide vacant space should be left near each tree. It would be still better to have no other crop, but merely keep a clean mellow surface, by the use of the harrow or cultivator. After the trees become large, this treatment will be essential, and the raising of nothing else should be attempted.

(5.) Our correspondent doubtless knows what is best for his region of the country for ordinary crops. Probably, as we have already said, yard manure, with some ashes or lime. The quantity must depend on the necessity of the case—say from ten to thirty two-horse loads per acre of yard manure, and twenty or thirty bushels of ashes or lime. It is best applied in autumn or winter; but will do early in spring, if covered to a moderate depth. Surface manuring is much better for heavy than for light soils, and on heavy ones it may lie on the surface not only all winter, but the following summer if somewhat mixed with the surface by the use of a harrow or cultivator.

(6.) It will be very difficult to make a young tree grow

on the precise spot where an old one has long grown, and we should not attempt it, unless a very large hole were dug and filled with new or fresh earth.

(7.) We have seen a row of peach trees two feet apart, and on rich soil, grow, flourish and bear for many years. But the distances we have already designated are best.

(8.) There is no doubt that a ditch three feet deep, filled with stone, would cut off the extension of roots, but it could not be of much practical utility—it would, perhaps, cost more than its benefits in most instances.

[For the Country Gentleman and Cultivator.]

CATTLE STABLES.

In the Country Gentleman of December 6, is an inquiry for a plan of a stable for thirty cows. Although it may well be thought that your columns have contained enough on this subject heretofore, yet there seems to be no end to the demand for information or suggestions on this and other leading subjects. Permit, then, a few words from one who has dealt largely, for a small farmer, in boards and shingles. The first consideration in building a stable or hovel, is that it shall be warm and yet well ventilated. Warmth can be secured by building carefully and well, whether the material be brick, stone or wood. If the latter, the joints of the boards should be well battened, and the boarding should, in northern climates, be double, or else the building should be lined or filled in with brick. These may be the cheapest soft brick, as it is only necessary that they should hold together until laid. The floors below and above, should be double, or else tongued and grooved. The former quite as cheap and probably better. The doors well fitted and as few as possible. The windows also tight, and plenty of them; the best being single sashes, 8 by 10 glass, four lights long and two high, set in a well made frame, in which they slide horizontally, and well up from the floor. The manure should never be thrown out of windows, but carried in a wheel-barrow or cart into the yards or manure sheds.

Ventilation is secured by the sliding windows, and by large box pipes carried from the ceiling out of the roof, and furnished with valves or swing shutters in the usual way.

The next consideration is convenience of arrangement, and where it is possible, no plan is better than long double rows of stalls or boxes, with a wide feeding passage between. If the hovel be a "lean-to" addition to a barn, a single row only may be allowed, but a double row saves room and saves steps. In all cases cattle should stand with their heads towards a feeding passage. Room may be saved by carrying fodder in the passage behind the cattle, but the neatness and convenience of the former arrangement, strongly recommend it.

The third consideration is the comfort and cleanliness of the animals in their stalls or boxes, and, it may be added, their safety. First, then, give them room enough—four feet to each beast is not too much, and six inches more is better; and as this article would be "longer than too long" if it discussed all the ways of making cattle stalls, the writer will mention only the plan he likes best, after trying a great many—that is, to have double stalls each at least eight feet wide; mangers two feet wide, the front plank about ten inches high, and the bottom of the manger raised three to four inches from the floor. From the manger to the gutter behind the cattle, 5 feet 5 inches for beasts of ordinary size, say cows weighing 1000 pounds, with a slant of one inch—the gutter a little wider than a shovel, and 5 inches deep. This plan secures comfort and cleanliness, and the gutter being kept full, or half full, of sawdust or dry muck, much valuable manure can be made in it.

For tying, put a strap around the beast's neck, running the strap through a ring to which is attached a few links of chain with a swivel and a ring on the other end, sliding on an iron rod or wooden standard—the iron rod bolted at each end through the partition plank—the wooden standard set at the front of the manger, 6 to 8 inches from the partition. Plank between stalls to extend just so far that cattle cannot, when tied, get their heads into the next stall.

Divide your mangers with a plank set edgewise across the middle, so that each beast may get its fair share of cut feed without reaching towards its mate.

Of course, as a progressive individual, one must admit that the sparred floor plan is better than any other, the testimony of so many good farmers proves that it is as comfortable and wholesome for cattle as any. It saves the great labor of cleaning out stables, and enables one to feed out all his straw instead of using it for bedding; but let one who has tried it describe it. I have not. If you desire, Messrs. Editors, I will send you a ground plan of my farm buildings,—"made all out of my own head"—better than many, but not so good as some. H. L. T.

OBSERVATIONS IN FARMING.

Plowing Deep vs. Plowing Shallow for Corn.

In May last I plowed twenty acres of old pasture for corn, having manured it during the winter before. When we commenced it was very dry, and in consequence the sward was turned over very thin. Some two or three lands were thus treated, while the rest was turned over deeper. The depth of the first did not exceed four inches; but there the corn started strongest, was injured less by the worms, which in great variety—three kinds at least—made great havoc in the rest of the field, and was all the way through much the best crop. Does this teach the propriety of shallow plowing on manured greensward for corn, or does it not?

Sowed Corn.

I can scarcely say enough in praise of sowed corn. I said something about growing it in a previous number; now for some facts about feeding it.

From less than five acres of it, I fed from thirty-seven to forty cows, giving milk from the middle of September to after the 1st of December. During all of this time that pastures were in season, the cows had the run of pasture; but they had corn fodder once every day during the whole interval, and after the feed was gone it formed their entire subsistence, except a moderate allowance of turnips or beet-tops and soft corn. My yield of milk was large; larger than my present feeding, which is intended to be good feeding, will produce.

We will allow that for one half the time the cows only got one-third of their living from the corn, and two-thirds for the other half. Now for the first five weeks, 40 cows at five weeks, is 200 weeks—*one-third* is, say, 67 weeks. For the second, 40 cows at five weeks is 200 weeks, *two-thirds* of which is say 133 weeks, or 200 weeks in all for one cow in milk upon five acres of sowed corn. That would be a year's keeping, or thereabouts, upon $1\frac{1}{4}$ acres. In conclusion, let me say that I have understated the facts rather than exaggerated them. Further, let me also remind the reader that this corn was grown upon greensward of the Mohawk flats, upon which an ounce of manure was probably never drawn in 70 years that it has doubtless been cropped, and at a most trifling expense.

That brings me to another interesting topic. What will you follow your corn crop with? I answer, with timothy and clover. Farmers have warned me not to disturb even a worn-out meadow on the flats, from the difficulty of getting it back again into grass. The truth is, there is just no trouble about it at all. In March or April, or as early as possible, sow half a bushel of clear timothy, or of clover and timothy, upon your corn-stubble. Select a morning when the surface is frozen but will be sticky before noon; roll your seed in as soon as dry enough, and roll thoroughly. If you sow pure timothy you will get a ton and a half the first season, and three tons the second. I speak from knowledge, Mr. Editor, whereof I affirm.

It is a great mistake, I think, to sow any English grain on the flats. It inevitably lodges or rusts, or both, smothers out your grass if you try to seed with it, and you not only lose a crop, but a year in seeding. Potatoes rot upon them. But they are the natural home of corn, whether sown or planted, and grasses of any kind.

Utica, Dec. 24, 1860. J. G. W.

[For the Country Gentleman and Cultivator.]

Progress of Sorghum Culture in the West.

Eds. Co. Gent.—There are many inquiries from various parts of the country, as to the success or failure of the Northern Sugar Cane or Sorghum Saccharatum. I will give you in brief, my experience, and hope that others who have tried it will do the same, for there are yet some who are still in unbelief.

Four years ago last spring a neighbor of mine gave me some seed, which he had raised the year before, from seed from the Patent Office. This seed was well matured as it proved, for it all grew. I planted it on the 22d of May of that year—latitude 41° 30' north.

I had no means for working up the cane. It made a very excellent feed for cattle. I however took a few canes, put them into my stove boiler, steamed them and boiled down the juice, from which I got about a quart of the very best of syrup, equal I think to any I ever saw, notwithstanding I had been raised among the hard maples and sugar bushes of Jefferson county in your state.

The next winter I took a sample of it to the annual meeting of our State Ag. Society, at Springfield, and claimed it to be the first made in the state. The state officers and several members of the legislature tasted of it, and pronounced it equal to any.

At this time large orders were sent to France to get a supply of seed, which sold here in small quantities at from one to two dollars per pound. Many were induced to try it. The year 1857 was a very unfavorable season for growing the crop. It was very cold during the season of planting, and too cold for ripening in September. This discouraged many.

There was no suitable machines for crushing the cane nor for boiling the juice. Immature cane and poor apparatus for evaporating the juice of that year, caused many to denounce the thing as a humbug. But there were some who succeeded well—made a good article, and *reported progress.*

In the winter of 1858 the friends of the Northern Sugar Cane met in convention at Springfield, to compare samples, for the best of which several heavy premiums were offered. Some forty samples of syrup, and several samples of sugar from the cane, were on exhibition. The mode of manufacturing was there fully explained so far as experiments had gone. The mode of clarifying or cleansing the juice, seemed to be the most difficult point to settle. Several of the statements which seemed to be the most reasonable, were published with the lengthy proceedings of the convention. Some of the samples presented there, proved to be equal to the best we get from the southern market.

Boilers or evaporators were wanted, that would do the work rapidly. Several new inventions were brought out, and now at our state fairs, we find such evaporators that receive the juice at one end, and at the other the syrup runs off into the barrel—no cleansing being used by some, but a continual skimming is kept up.

The year 1859 was more favorable for growing the cane. In some counties in the north-west that year, from twenty to thirty thousand gallons were made. The new inventions for crushing the cane, and the great improvements in the construction of evaporators, and the cheapness and excellence of the syrup, proved to us that it "would pay." This year has been still more favorable. Many large fields, from ten to forty acres, have been raised, and the crop worked up, and syrup sold at from fifty to sixty cents per gallon. But a more general custom among our farmers is to plant one-half acre; and as there is now from five to ten mills in most of our towns, our cane is taken to them and worked up on shares, the grower receiving one-half the syrup in his own casks. This one-half acre, which has cost the farmer in work about the same as to raise a half acre of corn, furnishes his family with about fifty gallons of syrup, enough for one year's use or more. This syrup, if made from well ripened cane, and carefully skimmed while boiling, is equal to any that we ever get in this market from the southern states. But whether sugar can be made from the cane so as to make *it pay*, is yet a question, though many are firm in the belief that before long barrels and hogsheads of sugar made from the northern cane, will fill our markets.

I have seen sugar of a very good quality on exhibition at our fairs, and from the old adage, that "what has been done may be done," we may expect that entire success in sugar making will be accomplished.

A gentleman from Iowa called on me a few days ago, during my absence, and told my family that he would be here again, and with my syrup make a superior article of sugar. When done, will report progress, and send you a sample. It is impossible to tell the amount of syrup manufactured in the north-west; but we find from some of the census reports, that from twenty to fifty thousand gallons were made in some of the counties, and this in 1859. This year has nearly doubled the amount. In Rock-Island county we have probably made forty thousand gallons this year. Croakers may murmur, and those who know nothing about it may call us humbugs, but they will not stop us from making our own sweetning in a climate where Indian corn will ripen.

There are those who will not succeed with anything. They can raise a good crop of grain only by accident. Their fruit trees wont grow as their neighbor's do. Their cattle and everything they have are of the "slip-shod" kind. The *why* is, they lack system and perseverance. Let them croak and cry humbug, but we will enjoy the sweets of our labor. C. G. Taylor.

Rock-Island Co., Illinois, Dec., 1860.

[For the Country Gentleman and Cultivator.]

DRESSING RAW HIDES.

Messrs. Tucker & Son—I say to your correspondent "R.," that I am not a practical tanner—only practicing it sometimes in my own rude way.

I would say to him, in tanning the raw hide of a calf for instance—when the hide is first taken from the animal, spread it flesh side up; then put two parts of salt, two parts of saltpetre and alum combined—(or as much saltpetre and alum as salt)—make it fine; sprinkle it evenly over the surface; roll it up, and let it lay a few days till dissolved. Then take off what flesh remains, and nail the skin to the side of a barn in the sun, or in dry weather stretch on the ground by driving pegs in the edges of the skin. It must be stretched tight, or there will be hard and ugly wrinkles you cannot get out. After drying, and the flesh is sufficiently off, it is fit to cut up. But to make it "soft and pliable like harness leather," put neatsfoot oil on it—fasten it up again, and let it remain a day or two in the sun. Then take a stick about three inches wide, and long enough to work with both hands, made like a wedge on the end, and rub out all of the oil that can be, and it is tanned with the hair on.

Some persons say a calf skin, (a deacon is better,) tanned in this way, and the hair taken off, and blackened, makes excellent boot leather, warranted not to crack. The only trouble is, it will last too long.

Cow skins are stronger and heavier, and are sometimes only salted and stretched; the flesh taken off, cut into strings, braded into halters or other useful things—the hair shaved off with a sharp knife. To make these strips soft, they are oiled, buried in cow manure for a few days, then rubbed and worked till dry.

The skin of a white animal is not No. 1, nor a red and white, nor black and white. Avoid spotted skins of any kind. Red is good; black is better.

For an ox whip, cut these strings about one inch wide at the top, and about eight or ten feet long, running to a point, with a buckskin cracker one inch wide, and eight inches long—hang it to a stick about the length of a walking cane. The stick should be the top of a little pine or cedar. You can crack it so it can be heard as far as you can one of Col. Colt's pistols. It will last as long as the average county insurance companies. William Rhodes.

Oneida Co., N. Y.

SAVING MANURE.

The Capacity of Soils to Absorb and Retain Fertilising Matters—Muck vs. Clay—Plaster and Clover—Liquid Manure Tank.

MESSRS. EDS.—In the Co. GENT. of Dec. 20, I noticed an inquiry of J. S. of Alleghany, on "saving manure," and about tanks or basins for saving the liquid excrements, &c., and he very truly remarks, "It is an important matter with every farmer, to learn the best manner of husbanding his manure."

There is usually a great loss of fertilizing matter washed from most farm-yards by drainage, caused by heavy rains and melting snows. In New-England, and in the valley of the Hudson, the annual fall of rain is from 36 to 40 inches in vertical depth. Thus a body of water annually falls upon most farm-yards of over three feet in depth, and generally much the largest portion of the water escapes from the farm-yard, carrying with it much of the fertilizing matter of the manure, which in the aggregate is an immense loss to the country. Many farmers cart muck or other material into their yards, which in part acts as an absorbent, whereby a considerable saving of the soluble salts of the manure is effected. Others, in the large grain-growing sections of the country, make use of large bodies of straw; but after all, there is generally much loss of the real quintessence of the manure. Even among our best farmers, they sometimes "suffer an immense loss from the liquid running from their barn-yards."

In the Co. GENT. of Dec. 3, 1857, we find an interesting letter from JOHN JOHNSTON on manures, &c. He writes:

"I have suffered an immense loss from the liquids running from my barn-yards, but I never could contrive a plan to prevent it. I know some of your correspondents would say, get swamp muck into your yards to absorb the liquids. So I would if I owned a swamp. True, there is one only a mile from me, but the owners are like the dog in the manger—they will neither use nor sell a part to me. A number of years ago I offered 12½ cents per load for a thousand or two horse wagon loads when dry, but the owner thought it would make *unsightly* holes in it."

Good swamp muck when used in a dry state, is a great absorbent of liquids, and a retainer of the ammonia and soluble salts of manures, but these are retained by it as a sponge retains such things—by capillarity and mechanical force. Muck is also a good retainer of moisture when applied to dry sandy land. But in point of fact, muck is a much less valuable fixer or retainer of ammonia and the soluble salts of manures, than clay or clayey soils, such as Mr. Johnston's farm mostly consists of. If Mr. Johnston's, or J. S.'s, or anybody else's yards were made basin-shaped, and were fitted with aqueduct logs or other contrivances, so as to carry the surplus drainage to a large cistern or vat (three or four feet deep,) filled with a clayey loam, so that the drainage would leach through the clayey loam, the foul and colored liquid that went on to the top of the clayey loam, would come out at the bottom clear and divested of taste, color, and smell. The ammonia, potash, phosphates, &c., would be retained, chemically combined with the alumina and carbonaceous matter of the clayey loam. These substances appear to possess to a great degree, the power of chemically combining with both the mineral and gaseous constituents of manure and storing them up, so that the rains cannot wash them out; while at the same time, the soil is so constituted that it readily yields up these necessary ingredients to the growing plant as needed. There is abundant proof of the above. There is a divinity in all this. There is no chance or haphazard about it.

The experiments of Prof. WAY were pretty fully published in many of our agricultural journals a few years since. In these experiments the Prof. made use of jars filled with sand to the depth of five or six inches for filtering the foul water from the sewers of London, and fœtid water in which flax had been steeped, putrid urine, &c., &c. It was found that the sand only deprived these liquids of their turbidity, and perhaps a small part of their fertilizing principles; but the color and offensive smell, after filtration, remained in all their intensity. This proved that sand and gravel do not possess the power of fixing the salts and gases of manures. It was discovered that when the sand was mixed with one-fourth its weight of white clay in powder, these disgusting liquids were clear when coming through—were free from smell, and scarcely distinguishable from ordinary water. To sum up the matter, it was found that the clay or aluminous portions of soils possess the power of chemically combining with not only the gaseous compounds of decomposing animal matter, but also with the alkalies, ammonia, potash, soda, magnesia, &c. This, said Prof. Way, is a very wonderful property of soil, and appears to be an express provision of nature. "A power," he says, "is here found to reside in soils, by virtue of which not only is rain unable to wash out of them those soluble ingredients forming a necessary condition of vegetation; but even these compounds, when introduced artificially by manures, are laid hold of and fixed in the soil, to the absolute preclusion of any loss either by rain or evaporation."

We think the above views, expressed by Prof. W., are substantially correct, and of their correctness it seems to us there is abundant proof. That bountiful provision of nature, which treasures up in the soil unwasted for unlimited periods of time those fertilizing ingredients so necessary to the growth and maturity of vegetable life, marks, unmistakably, the wisdom and beneficence of the Creator.

In proof of the Professor's remarks, that rain water does not filter or wash out those organic and inorganic constituents of a good soil—the necessary food of plants, we will mention a few well known facts. The immense tracts of land which are annually overflowed in Egypt were exceedingly fertile in the production of wheat, flax, and various other cultivated crops long before the brethren of Joseph went there to purchase corn. That fertility has been kept up from that to the present time, not so much by the use of animal manures as by the rich deposits of sedimentary matter annually brought down from the sources of the Nile, and spread over those vast plains by the swollen waters of that river. The fine and comminuted particles, when afloat in the water, hold on to their salts and other enriching qualities till wanted for the growing crops, as a miser does upon his gold.

Our western prairies have lain for untold centuries with bosoms bared to the "peltings of the pitiless storms" of melting snows and drenching rains; many of them have been annually burned over time out of mind by the Indians and hunters, and yet the sun scarcely shines on soils richer in all the properties necessary for the production of food for the sustenance of animal life. It is true, the unfed grasses on portions of the prairies are annually left upon the land, and by their gradual decay restore to the soil all that has been drawn from it. Those portions which are burned over receive the benefit of the ashes of the burned grasses, and thus its fertility is kept up. But still the question presents itself, why have not the forty-five inches of annual rain fall, for some six thousand years, long since washed out all the fertilizing matters of these deep soils, and long prior to this have left them as barren as the deserts of Arabia? Prof. Way's experiments answer the question. The alumina of the soil with the carbonaceous matter, holds the ammonia and other salts so they cannot be washed out.

A correspondent of the Rural New-Yorker of 22d Dec., says: "The wheat crop of Wisconsin this year was estimated, by a committee appointed by the State Agricultural Society, who carefully canvassed the grain districts, at *twenty-two millions of bushels* from 1,062,000 acres." Probably more than a million of these acres never received so much as a single wheel-barrow load of farmyard manure. The ingredients for this enormous crop of wheat have been accumulating in the soil, despite of rains and melting snows, "ever since the flood," but these wheat and corn

crops will do what the rains never could, viz., sooner or later deprive these Wisconsin soils of their fertility, unless the farmers there in some way restore to them an equivalent for the fertilizing matters extracted by their crops. Perhaps the most economical way in which this can be done will be by the use of clover and gypsum—as has long been practiced in some portions of Western New-York and in some other States. How long the fertility of an annually cropped soil can be kept up by the use of gypsum and clover we will not attempt to predict, but we know it can be for sixty years. We have just received a letter upon this point from the Hon. GEO. GEDDES of Onondaga Co., N. Y. Although the letter was not intended for publication, we trust he will pardon us for the extract we make from it. He says:

"You will see on page 109 of my Report,* Prof. Norton's analyses of some soil and underlying rock of a field that had been treated with clover and gypsum, and no manure, for fifty years. This land my father purchased of the State in the last century, taking the first crop of wheat off it in 1799. This year wheat was taken from this field—a good crop, say 25 bushels to the acre, after barley last year. Great care is taken not to manure this field with anything but clover and gypsum, as it is intended to see how long this plan of fertilising will continue to improve the crops under our system of rotation."

Mr. QUINCY, in his address, said, "Our western neighbors believe that the fertility of their soil is inexhaustible." If they entertain such visionary ideas, we trust they will discard them before it is too late, and that they will resort to green manuring by the use of clover and gypsum, while their soils are yet fertile, for it is easier and cheaper to keep up the fertility of a naturally good soil, than it is to restore fertility to a worn out soil.

But to return to the subject,—the capacity of soils for absorbing and retaining fertilizing matters. Are the soils in our primitive forests, from which the fire and the axe have been kept out, any less rich in fertilizing matters than they were the day that Miles Standish and his toil-worn companions landed at Plymouth, 240 years ago? Probably not. The black soils shovelled from ditches in wet swamps, and spread upon the banks of the ditches, are frequently found to produce as heavy a growth of oats and as large a yield of English grass, as the most highly cultivated uplands. Now these black mucky soils have been drenched in water for centuries, without having been deprived of these fertilizing ingredients which have been accumulating for ages. These facts most clearly demonstrate the economy of applying clay and swamp muck to light sandy and gravelly lands, as they have the effect of rendering such soils more retentive of moisture, giving them a greater capacity for retaining the strength of manures applied to them, and storing up the ammonia and other gases which falls upon them in the rains and snows.

In the letter of Mr. Johnston, referred to, he says—"My farm is as rich as is profitable for wheat. This has been effected by underdraining and manuring." His is a clayey soil thoroughly underdrained; when he applies manure, what is not taken up by the crop immediately following the manuring, is *fixed* in his aluminous soil for succeeding crops. It does not run off through the pipes of his underdrains—it is chemically combined with the alumina before it reaches the pipes, and there to be retained for future use. But if his was a sandy, gravelly soil, the result would be quite different, as the experiment of Prof. Way proved when sewage and other foul liquids were filtered through sand. It seems to us that all that Mr. Johnston lacks to render his farming operations complete, is a large tank filled with clay or clayey soil, through which the drainage of his barn-yards can be filtered. His clayey loam is better for this purpose than that of his neighbor's muck.

The last of September, in company with Jos. B. Walker, Esq., of Concord, Secretary of the Board of Trustees of the New-Hampshire Asylum for the Insane, we spent a few hours in examining the farm connected with the asylum, and the very great improvements made upon it within the past fifteen years, and if our limits admitted, should be happy to report them—but at this time can only refer to a newly constructed tank or walled basin for receiving the wash, &c., of the establishment.

A main circular sewer of brick and cement laid in the ground, collecting all the drainage of the halls, bathing-rooms, water-closets and wash-house, conducts it to the tank referred to, which is located at a retired point sufficiently remote from the buildings. The tank is sixty-four feet square, and four and a half feet deep. Its bottom is of clay, and its sides are constructed of split granite laid in cement and made water-tight. A drive-way inclining from within and from without, to the top of the west wall, gives access to and egress from it, for the drawing in of absorbents, and for the removal of its contents by teams. Its sides are pierced by gateways at different elevations, through which the surplus water of the tank, charged as it will be with fertilizing matter, can be easily distributed over the lower lying adjacent lands. The lands thus irrigated and enriched become productive in a high degree.

There is upon the farm extensive beds of black vegetable muck, as well also as of clay and clay marl. The tank is to be filled with these absorbents, its capacity being over one hundred and thirty cords. The institution averages about two hundred and thirty persons, and as the drainage of the halls, bathing-rooms, water-closets, &c., pass into the tank, we presume that the one hundred and thirty cords of muck, &c., would become saturated to its utmost capacity every three months, so that 260 cords of first quality of manure can be obtained every year from this source alone; besides the surplus liquid of the tank, to be used for irrigation, will be equivalent to many more cords.

We do not suppose farmers generally can build "tanks of split granite laid in cement," but we have quoted the above with the hope that it may stimulate thousands of our farmers to take measures to save at least a portion of the dark colored coffee looking liquids that are now suffered, uncared for, to flow out of their barn-yards down the gutters, to the nearest brook, where they are lost.

Warner, N. H., Jan., 1861. LEVI BARTLETT.

*Pages 325 and 326, Transactions N. Y. State Ag. Society, 1859.

HUSKING CORN.

"The dry husks rattle and the corn-cobs crack."—BARLOW.

We yield the palm to Samuel C., page 382 of Co. GENT. Luke, page 337, was six and a half hours husking forty bushels. But I have heard from several sources, that those stories are too marvellous to be credited, and one man in particular is certain "there is some catch about such big stories." I acknowledge there was a little catch in my case, and I'll be honest about it, and tell how it happened.

The soil where the corn grew was well drained, so that all superfluous water was "*catched*," and carried off; and within six years past it had "*catched*" two heavy crops of green clover, well turned under; and last spring it "*catched*" a good sprinkling of barn-yard manure, which had "*catched*" a great many barrelfuls of liquid manure, as it flowed from the liquid manure pump in my stable; and then, this was "*catched up*" by the roots of the corn, and deposited by some mysterious process in the ears; and when we came to "*catch off*" the husks, we found that the ears and kernels appeared as if they had "*catched*" the dropsy; and we found that a man could "catch off" the husks of one of these large ears sooner than he could husk a little nubbin of half-starved corn, of which no man is able to husk over 15 or 20 bushels per day. This is the *greatest* "catch" there is about it; and if our incredulous friend would make drains in his corn-field instead of his barn-yard, and "catch up" up that liquid manure that flows away to the river—benefitting no one—he will alter his mind about the great "catch" in husking corn. Large, plump ears of corn a foot long—and I have had lots of such—will soon fill a bushel basket; while a fast husker must husk a long while to get a bushel of nubbins. S. EDWARDS TODD. *Lake Ridge, Tomp. Co., N. Y.*

[For the Cultivator and Country Gentleman]

"BALLOON FRAMES."---11th Article.

To erect a balloon building requires about as much mechanical skill as it does to build a board fence.—SOLON ROBINSON.

One of the great recommendations in favor of the balloon frame is that it dispenses with mechanical skill, and enables the farmer or others who build it, to do their own work, no further knowledge being required than that requisite to adjust a plumb line, lay out at right angle, and drive nails.

Many suppose that it is not applicable to buildings beyond one and a half stories high, but practical tests show its adaptation to buildings of all sizes.

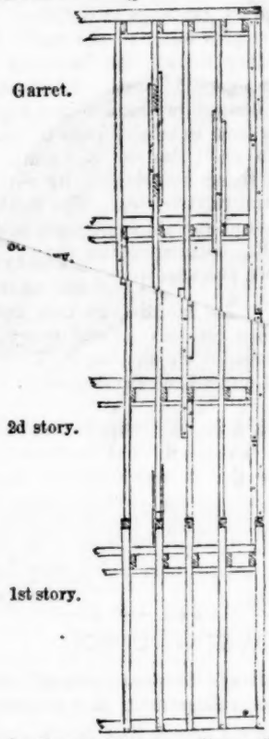


FIG. 1.—BALLOON FRAMING—THREE STORY BUILDING.

In the engraving, we show the manner of constructing frames for buildings of three stories. The corner stud, 4 by 4, is composed of and built up with two 2 by 4 studs, which are nailed together, breaking joints as the building progresses in height, the splicing of studs is done in the same manner, being nailed together as fast as additional length is required; the joists of the last floor are laid upon the plate and they act as tie-beams to sustain the thrust of the rafters. We consider the splice where the studs butt and have side strips nailed to them, to be the most secure; the lapping splice is very generally used, however, and found to answer every purpose. There is now in the process of erection on Wabash Avenue, Chicago, a balloon frame dwelling house that will cost in the neighborhood of $12,000, in which the lap splicing is adopted throughout; it has a cut stone basement equivalent in quality and workmanship to the best in our eastern cities, and it is designed to be in every respect a first class house.

We show all the plans for splicing that have come to our knowledge, either of which are secure.

The predicted notions of insecurity so freely circulated by the enemies of balloon framing, have been principally based upon its application to three story buildings, and they have utterly failed to sustain themselves. If we consider a moment how thoroughly tied the ordinary balloon frame is from sill to rafter plate, that where a stud is spliced, those each side of it are in their full strength, that the floor beams run from side to side and become tie beams, and that the flooring and side girths run from end to end and act in the same capacity, we must cease to doubt its security. There cannot be any separation of the building,

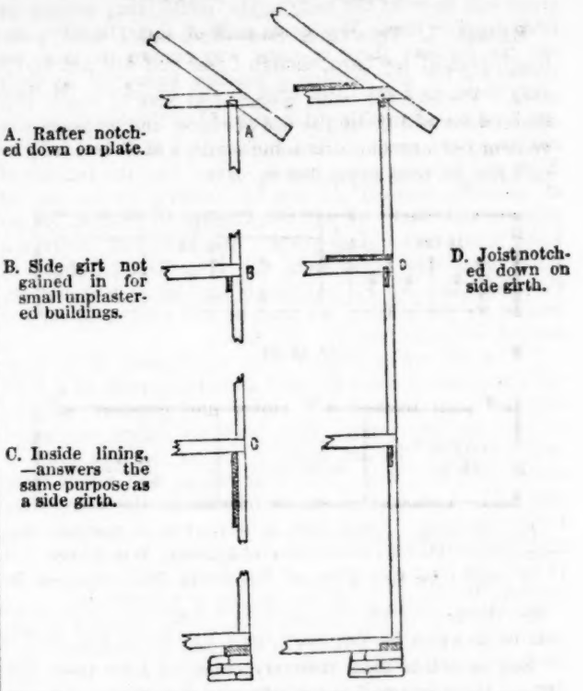

A. Rafter notched down on plate.
A
B. Side girt not gained in for small unplastered buildings.
B
C
D. Joist notched down on side girth.
C. Inside lining, —answers the same purpose as a side girth.
C

FIG. 2. BALLOON FRAMING—DETAILS.

but it is firmly knit together, and every strain and cross strain fully provided for; add to this lining or lathing and outside siding, and it is fully equal to any emergency.

The details shown explain themselves and comprise all of any value in putting such parts of the frame together; the simplest form we deem the best, but we are obliged to sink the side girth in plastered buildings, or in large buildings, where there is a heavy weight of floor. Notching down the floor beams on to the side girths is not necessary, though often practiced.

Balloon framing is a plain simple form of construction adapted to the capabilities of all, and has many points of merit which recommend it above other modes. That it may be successfully applied by those seeking economy, as well as security, is a well established fact illustrated by all the practical examples that could be desired.

As examples of three story balloon frame buildings, we would refer your readers to the Magnolia House, St. Charles, Iowa, Barr's Hotel, Monona, Iowa, Beebee's Hotel, Waterville, Iowa, Birdsey House, Columbus, Wisconsin, Lake Side Water Cure, Madison, Wisconsin, &c., &c., and stores ad infinitum in all our western cities.

GEO. E. WOODWARD,
Architect and Landscape Engineer, 29 Broadway, New-York.

[For the Country Gentleman and Cultivator.]

Hotch Potch or Save All.

Cut hogs' livers in small pieces—to each liver put one pint of sliced onions—boil them until tender in the liquid where head cheese has been boiled. Then add the scraps of leaf fat (the more the better.) Boil all together ten minutes. Then skim out the contents—run it through the sausage cutter. Put it in the liquid again; stir and season it well with pepper and salt; dip it out and put it in pans or jars. When cold pour a little melted lard over it, and it will keep good until April, unless it is eaten before.

To prepare it for the table, cut it in slices, put in a fryer with a little water, and let it fry a few minutes, and you have a cheap dish, not to be surpassed. Try it and then report.

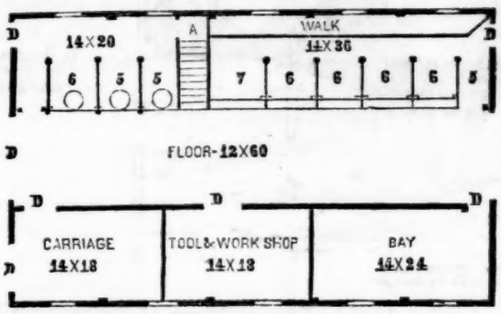
We have tried the above for several years, and think it the best dish from the pork. AN OLD SUBSCRIBER.

The Perfected Tomato.

A correspondent of the COUNTRY GENTLEMAN writes from Holden, Mass., that the "Perfected Tomato" proved good, although it did not yield so well as the old sorts, nor ripen as early, and many decayed without fully ripening.

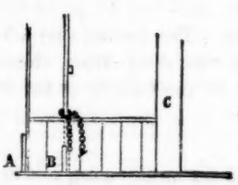
PLAN OF A BARN.

MESSRS. L. TUCKER & SON—Enclosed I send you a rough plan of my barn, though I fear you will not find it very plain, as I am little used to the business. If there shall be found anything that will add to the beauty or convenience of any one's farm buildings, I shall feel fully repaid for the time expended upon it.

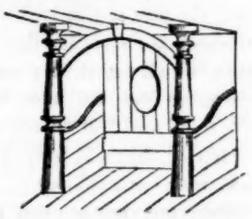


PLAN OF BARN.—A. Harness room. D. D. Doors—all the outside pannelled. Windows 9 by 13 glass, with blinds. Posts 18 feet.

I sought for two objects, viz., convenience and perfect ventilation, at as small expense as possible. The horse-stable is open to the main floor by the collars used in "Eddy's self-feeding manger," which I like quite well. There are also two large windows in the stable. Opening from the stable, under the scaffold stairs, is a harness-room, in which is also a trap-door leading to the cellar below. The mangers are supplied from the scaffold.



Side view of cattle stall.—A, rear plank of manger, 2 feet high. B, front do., 20 inches high. C, plank, 2 by 12 inches, 8 feet long.



Front view of horse stall with Eddy's patent manger; turned posts in front. Divisions of stalls 2 inch hard pine, with iron band on top.

Over the stable is a granary and seed-room. A double flight of stairs leads from the granary and scaffold, over the cow stable to the "great beams," which, being dropped two feet, furnish abundant room for straw and other coarse fodder, or may be used to dry corn. Thence two flights of stairs lead to the ventilator, which is 12 by 10, and high enough above the ridge to admit a window the same size as those below. The ventilator has four windows with sash and blinds.

The cellar is under the whole building, the part under the stables being used for a hog-pen.

A part of the remainder is used as a henery, having a glass front facing the south. A well with chain-pump, in one corner, supplies the stock with water.

The balance is used for storing farm implements, lumber, &c., the whole front being enclosed and furnished with the necessary doors, &c.

The cellar is as dry and light as any part of the barn, and I consider it of as much importance as it is certainly as convenient.

I do not know as you will find anything of merit in the plan. In a section of the country where there are many fine farm buildings, I have no doubt may be found many improvements. This plan does not necessarily add much to the cost of the barn, while it is an improvement over the old style of building. The barn may be built for about $1,200, clapboarded and painted.

The doors all move upon rollers, or trucks upon the bottoms, which I think is preferable to suspending them by the top. C. W. G. *Holden, Mass.*

THE YUCCA* OR ADAM'S NEEDLE.

The Yucca, of which there are some 20 or more species and varieties in cultivation, is a remarkable genus of ornamental plants, all we believe, natives of the United States —some from the north, some west, and some south. Some are shrubby, and among these the *Gloriosa*, *Superba*, and *Serrulata*, which are kept usually in green houses, attain the height of eight or ten feet, assuming a palm-like form, a round clean smooth stem, surmounted by a mass of long pointed foliage. When in bloom they are at once remarkable and beautiful, the flowers, which are bell-shaped, being produced on pyramidal spikes four to five

feet high, as in the annexed wood cut. We have seen plants with upwards of 200 flowers all open at one time. The low growing herbaceous sorts are better adapted to out-door culture at the north than the shrubby ones which cannot endure a severe cold. The *filamentosa*, *flaccida*, *angustifolia*, (see cut) and some others, are quite hardy without protection, and when planted in large beds on the lawn are very effective. These are propagated from seeds and suckers, and are rather tardy in blooming, but they are worth waiting for.

A VALUABLE REMEDY.

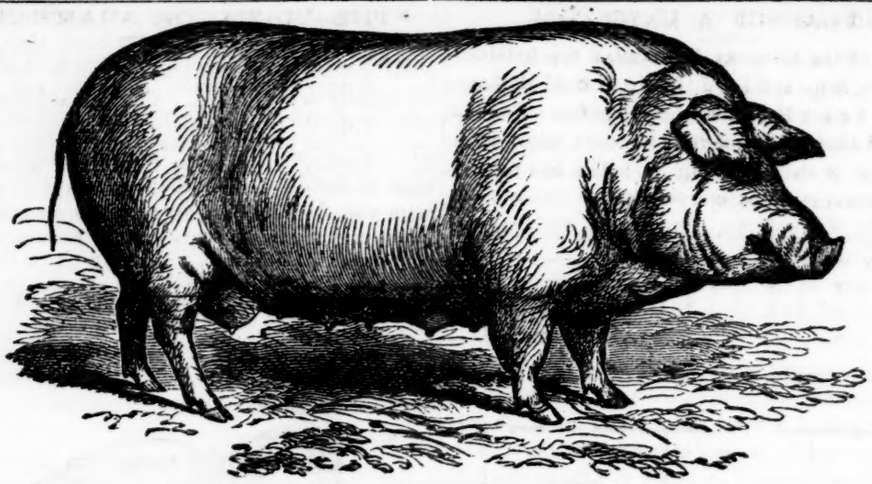
Every family should keep a small quantity of *chlorate of potash*. We have never found anything equal to it for a simple ulcerated sore throat. Dissolve a small teaspoonful of it in a tumbler of water; and then occasionally take a teaspoonful of the solution, so as to gargle the throat. It is nearly tasteless, and not at all offensive to take, and is hence well adapted to children.

Nothing is better than this for chapped or cracked hands. Wash them in the weak solution, and they will be soon well. It is also good for a rough, pimply, or chapped face. It may be had at any druggist's.

Common salt has been strongly recommended for the incipient stages of that dreaded disease *Diptheria;* but we have no doubt this would be better.

We have no doubt that if some scheming medicine man should give a high-sounding Greek or oriental name, introduce some ingredients to conceal its nature, and expend a hundred thousand dollars in advertising, he might make as great a fortune out of it, and possibly as honestly, as some of the great patent medicine venders.

As chlorate of potash somewhat resembles oxalic acid, a deadly poison, in external appearance, a test for its ready identification in case of a missing label, may be desirable. Throw a few grains on burning charcoal or into a wood fire, and it will produce a bright light, owing to the production of oxygen gas, similar to the light produced by throwing saltpetre into the fire, but much more intense.



CHESTER COUNTY SWINE.

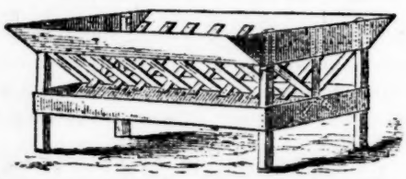
The above cut represents a sow of the Chester County breed of swine, bred by THOMAS WOOD of Penningtonville, Chester Co., Pa., and afterwards sold to Wm. White of New-Hampshire. She is from Mr. Wood's celebrated premium stock. The Chesters are deservedly a very popular breed, being preferred by those who have raised them, on account of their alleged superior hardiness and large size, while they are said to feed and fatten as well as any other breed.

CARE OF SHEEP IN WINTER.

Sheep Racks and Feeding Troughs.

In some recent remarks on this subject, (Co. GENT., Jan. 3, '61,) we said that "feeding racks for hay and grain under shelter" were requisite, leaving the matter for further reference, which we now proceed to offer, having had some experience in their use and construction.

One pattern, which we have had in use three winters, we figured in the Co. GENT., of Jan. 25, '58, and again insert the figure and description. We find it very convenient, and notice but two trifling objections. It is not as handily cleaned out as some racks, unless a small broom is used for sweeping the troughs; and secondly, unless the rack is clear of hay it is necessary to place the grain in each trough separately, instead of putting it in both sides at once by pouring it along the centre of the rack.



Seventy-five or eighty feet of lumber will make an eight feet rack, which is, we find, the most convenient length on account of ease in moving. The posts, forty inches high, are of three inch scantling; inch boards answer well for the remainder of the rack; 8d nails for nailing to the posts, and 6d for nailing on the slats, are the best size. The width of the rack is twenty-six inches, the lower outside boards are six inches wide, and placed 12 inches from the foot of the post. The upper sideboards are ten inches in width, with the end pieces to match, which should be of good timber to hold well the sides nailed against the beveled ends.

The bottom boards, eight inches wide, are fitted in against each bottom side-board, and nailed there and at the ends, and two boards about ten inches wide, nailed together at the edges at right angles, are placed in the centre of the rack, to form the remainder of the bottom. To this, one end of each slat is nailed—the other against the inside of the flaring top-board; the slats are two inches wide, and about two feet long, and are placed three inches apart from those on the same side. One or two may be put up at each end, to keep the sheep from getting their heads into the rack.

The troughs not only serve for feeding grain, but to catch the fine hay as pulled out, and what is not eaten by the sheep is not under their feet, and may be given to the cattle, which eat it very readily. The flaring side-boards hold more hay, and also keep the sheep from standing with their fore feet on the side of the trough, to eat from the top of the rack, as they will do in the old form of this rack, with upright sides.

There are various other good forms of racks, and separate feeding troughs are more convenient on some accounts. But something of the kind is absolutely necessary to the economical wintering of sheep, and the profitable production of wool and mutton.

When and How Often to Feed Sheep.

On these points we find something a little different from the general received views, from SOL. W. JEWETT, in the *Ohio Farmer*, which we condense below for our readers, inviting comment upon the subject from experienced sheep-breeders.

To carry sheep well through the winter, they should come to their food at a regular set time every day, unless the weather be very cold; then they may repose a little longer in the morning. With two feeds a day, to wit, between 8 and 9 A. M., and before 3 P. M., sheep will require one-fourth less fodder than if fed three or four times a day. In no case put off feeding until sundown. The more exercise sheep have the more they will consume, but they rarely eat any at twilight. Healthy sheep will winter well on one bountiful feed per day given about 11 A. M.

The best time to feed grain is immediately after they consume their hay, and before they lie down to ruminate and digest their food. Let the grain be placed in their feeding troughs before the sheep have access to them. Hay should always be fed in racks or boxes. Feeble sheep should be fed no more frequently than strong ones, but with better food.

☞Our acknowledgments are due to THEOPHILUS ROESSLE, Esq., of the Delavan House in this city, for a fine lot of Celery, Lettuce and Asparagus—rarities indeed at Christmas time—and fully equal to the best of summer production.

Experiments with the Clover Plant.

The Editors of the COUNTRY GENTLEMAN are indebted to J. B. LAWES, Esq., and Dr. J. H. GILBERT of Rothamsted, England, for the Report of their Experiments on the Growth of Red Clover by Different Manures, taken from the last Number of the Royal Ag. Society's Journal, together with several other papers, transmitted through the politeness of Dr. EVAN PUGH, President of the Pennsylvania Agricultural College.

The importance of the common Red clover, although scarcely as yet comprehended entirely by all our farmers, is so great that no apology is necessary for devoting a brief space to the subject of the experiments here referred to. It is known that while there are crops which may be continuously repeated without failure, land too frequently sown with clover will in the end refuse to produce it; that the lapse of several years is necessary to remedy the difficulty, and that no other means of remedy have as yet been found. Messrs. Lawes & Gilbert instituted therefore experiments with various fertilizers, "with a view to ascertain, if possible, by what means the crop can be grown year after year on the same land"—but unsuccessfully, except in so far as their labors may pave the way for farther investigations.

During the writer's visit, in the summer of 1859, at Rothamsted, Mr. LAWES, in remarking upon this peculiarity in the clover crop, pointed out a field of barley which had produced crops of that grain for eight or ten years consecutively, and another field which had been still longer, year after year, in wheat. It will convey an idea of the extent and completeness of Mr. L.'s experiments, to mention that he expressed entire confidence in his ability so to regulate beforehand the fertilizers applied to the wheat crop, *as to produce a given crop per acre*—of course subject to risk of hail or other sudden storms—all the way up from 20 or 30 bushels to the most that can be obtained upon standing straw, and, if we are not mistaken, also to continue a corresponding production of this same crop, upon the same land, for any length of time. This, of course, like the manufacture by the chemist of grape-sugar out of pine boards, might involve more expense than the result obtained would generally warrant; but we think we are not misrepresenting Mr. Lawes' remarks at that time, when we say that he put the production of *Wheat* very much in the light of a well understood system of manufacture—when the price the article commands is sufficient to justify the attempt, he could supply the soil with such fertilizers that it would just as unfailingly bring 40 bushels to the acre year after year, as a mill, furnished with the proper raw material, would be sure to produce continuously a specified quantity of the manufactured article.

With *Clover*, however, all attempts of this sort had proved fruitless. Experiment after experiment only served more convincingly to show that the land *will* become "clover sick" if the crop is too often repeated, and that no other hand than that of Time is at present competent—economically or otherwise—to provide against such a result or to restore to the land its lost powers.

The experiments now reported were undertaken more than ten years ago, and have been in progress ever since. Not to follow them minutely throughout, it will be sufficient to say that the fourth or fifth of the continuous series of clover crops were entire failures—one-third of the land being manured previous to sowing the fifth time (1854) with 20 tons per acre of farmyard manure, another third with an equal quantity of farmyard manure, together with 5,000 pounds per acre of freshly burnt lime, and the remaining third left unmanured—all, as we have seen, proving equally unproductive. A second and heavy sowing in 1855, without farther manuring, gave small crops the sixth year; after that, different changes of crops and combinations of fertilizers were employed on different parts—to show that the land was productive for anything else but clover, it is stated that the part of it that was most "clover-sick," gave 58 bushels per acre of Barley, 52 pounds to the bushel,—but "not even the most complex conditions, and the repeated supply of those constituents which are found most to increase the clover crop when it is grown in the usual manner, after an interval of several years, have restored the clover yielding capabilities which the soil possessed at the commencement of the experiment in 1849."

Upon a little patch of garden land only a few hundred yards distant from the field where the above experiments were going on—probably a part of the Rothamsted kitchen garden *for two or three centuries* at least, for Rothamsted is an establishment dating back some time—clover was sown in 1854, and at the close of the season of 1859, six years, fourteen cuttings had been taken from it without re-sowing—producing the largest yield in some seasons when no clover could be grown at all in the field experiments, and thus indicating that the difficulty with the latter lay in the soil, rather than in any atmospherical peculiarities. It is by no means easy to explain wherein the soil of the garden was better fitted than that of some of the plots in the field to produce the clover crop so long and largely; both must have contained all the ultimate constituents of the clover plant, although possibly in different proportions and combinations. It is to be hoped—although not expressly so stated—that the garden trial will be continued until the capacity of the soil there, for the production of clover, is fully tested.

This liability of Clover to failure has been accounted for presumptively, in a great number of ways, by various agricultural writers; the following, among other assumed reasons, are mentioned at the outset of the present report:

Exhaustion of the soil.

The growth of parasitic plants, which strike their roots into the clover and exhaust its juices.

Destruction by insects.

The injurious influences arising from the matter excreted by the roots of the former crop, or from the decay of the roots themselves.

The growth of the young plant under the shade of a corn crop.

We conclude for the present with the closing remarks of Messrs. Lawes and Gilbert:—

"The practical conclusions from the inquiry may be very briefly stated:

"When land is not what is called 'clover-sick,' the crop of clover may frequently be increased by top-dressings of manure containing potash and superphosphate of lime; but the high price of salts of potash, and the uncertainty of the action of manures upon the crop, render the application of artificial manures for clover a practice of doubtful economy.

"When land is what is called "clover-sick," none of the ordinary manures, whether "artificial," or natural, can be relied upon to secure a crop.

"So far as our present knowledge goes, the only means of insuring a good crop of Red clover is to allow some years to elapse before repeating the crop upon the same land."

☞ A new Supply of THE COUNTRY GENTLEMAN PORTFOLIO FILE has just been received—price by mail postpaid, *One Dollar*.

Familiar Letters on Bee Keeping---I.

Occasionally an old friend writes me asking sundry questions about bees. I find it impossible to give a short answer —that would not appear friendly, and in replying at length, my interest in the subject is such that I find myself constantly digressing, until the bottom of the 4th page warns me to stop. I have thought where the questions were such that the replies would be likely to interest some of your readers, I would forward you them, leaving it to your judgment if worth publication.

My friend writes as follows: "Can you tell me how long a bee lives? Whether physiologists of this day receive the ancient theory that the larva of the working bee can be stimulated into queen bees? I have no good authorities on these points, and find it most pleasant as well as convenient to ask you, instead of going to the public library."

The life of the worker-bee is less than six months. If you remove a queen from a hive, and destroy the queen cells or the young queen, before she begins to lay, you will find the hive nearly depopulated at the expiration of three months, when the hive will be either deserted or robbed by some strong stock; but to determine their length of days more accurately, a queen of a different race must be introduced to a swarm. If you put an Italian queen in a swarm of common black bees June 1st, it will be exceedingly difficult to find a black bee in the swarm after the middle of September, the colony after three months, being almost exclusively the progeny of the Italian queen, which is easily distinguished from the black bee. The above experiments do not give a just idea of the length of life of the worker-bee, for they meet death in so many ways during the working season, that but for their rapid increase they could not exist. The fairest manner to test this question is to introduce a queen of a different race in the autumn, when they have mostly ceased to fly, and are living in comparative quiet. I united two colonies of black bees October 6th, making a powerful swarm, and introduced an Italian queen. I may find a few black bees in the hive after the middle of April, but think it very doubtful. The life of the drone is probably not longer than that of the worker—it is always cut short by the workers after the swarming season, except when a hive is queenless; they are then instinctively permitted to live their full number of days.

The queen lives from two to five years. This fact has been ascertained in several ways; the simplest is to mark a young queen by cutting off a small piece from one wing, which mark always remains.

Your second question, "whether physiologists of this day receive the ancient theory," &c., admits of a short but unsatisfactory answer—Yes—and a long explanation. The process of raising queens by supplying a queenless colony with worker combs containing eggs or larva, is called *raising queens artificially*; the process is very simple, and is as follows: Deprive a colony of its queen, and in a few days after you will find ordinarily from five to 12 queen cells in progress; sometimes over thirty. A queen cell much resembles a peanut hanging perpendicularly from the comb; they are most frequently built on the edges of the comb. They will hatch in from ten to sixteen days after the removal of the queen, which depends upon whether they have been started from the egg or from larva—six days from the egg—later than this, (six days,) the change cannot be effected. In a few instances the queen does not hatch until the eighteenth day. The first queen hatched soon destroys all those yet unhatched. The queen flies out to be impregnated from the second to the sixth day of her existence, which impregnation lasts during her life. This takes place in the air, and was witnessed probably for the first time under equally favorable circumstances, last summer, at S. B Parsons' apiary, Flushing, Long Island, a full account of which was written at the time, but I believe has not yet been published. The drone met the queen but a few feet distant from the eyes of two witnesses. The act was of very short duration, and caused, as it does in all cases, the immediate death of the drone. Ordinarily the queen begins to lay from the 9th to 12th day; but in very weak colonies, and in cold weather, the laying is generally retarded, and sometimes for thirty days or more. An unimpregnated queen is capable of laying drone eggs. Drones raised from an impregnated queen are the same as they would have been if the queen had not been impregnated. This has been ascertained beyond doubt in the mixing of the Italian blood with the common bee, either by accident or design.

You will hardly feel satisfied with the foregoing experiment. The most conclusive way of conducting it is to take about a pint of bees without a queen, and put them in a box about six inches square, and give them a piece of worker-comb containing eggs—one-half inch square will answer. One or more queen cells will be started, and in due time the hive will contain a queen hatched from one of these eggs, that certainly would, under other circumstances have hatched a worker. Length of life generally bears some relation to the time required to arrive at maturity; and one would naturally conclude that the queen bee who hatches in five days less than the worker, would be shorter lived; but on the contrary, the queen lives to see many generations of her subjects pass away.

The above experiments cannot be conducted with any degree or nicety of satisfaction, unless a moveable frame hive is used. The Langstroth hive is the best, and his book on the honey bee is the best work on the subject in any language. The last edition contains many beautifully executed and truthful engravings, and a very copious alphabetical index—so that you need only read what you wish to know at first; this index is important, as the book contains about 400 pages. After a while, however, you will delight in reading the book carefully through, from cover to cover. E. P.

[For the Country Gentleman and Cultivator.]

CURING HAMS.

Eds. Co. Gent.—I see many tedious and troublesome directions for curing hams, and on reading one of them from Mr. Pardee, in the Co. Gent. of 6th December, I concluded to give a little description of my mode, for the benefit of plain old fashioned farmers like myself, who do not care to be troubled with so many nostrums. After cutting out the hams they are looped by cutting through the skin so as to hang in the smoke-room shank downwards; then take any clean cask of proper dimensions, which is not necessary to be water tight, cover the floor or bottom with coarse salt; rub the hams in fine salt, especially about the bony parts, and place them on the bottom of the cask with the rine down, covering the floor of the cask first; sprinkle dry fine salt evenly all over them wherever it will lay, so as to cover them perhaps half an inch; then lay others on them, letting the shank dip or incline considerably, placing salt in all cases between them, where they come in close contact with each other, or with the sides of the cask; small lumps of salt will be found very convenient for this purpose. Sprinkle fine salt over this as before directed, giving the thick part of the ham a good share, as the shank begins more and more to incline downwards. Proceed in this way until the hams are all salted, always observing to place them skin down and flesh side up; and if they sometimes get standing too much on end, the difficulty may be obviated by using a small piece of pork as a *check*. Let them lay about five weeks if of ordinary size, if larger, six weeks, and then smoke them.

You will perceive my process is simple—just a little dry salt and nothing more—not even a cask, if it is not at hand; a good box will answer. At first when I commenced this mode, for a few years I took them out and re-salted after three or four weeks; but this was soon found unnecessary, as a little experience taught me about how much salt was required. I am not now over particular as to the time of letting them lay in the cask; if it does not suit my convenience they are often allowed to remain a week later. Now about smoking.

I have constructed a smoke-room over my kitchen, in the garret—made dark,—and so as to admit smoke from the chimney. Here I hang the hams and let in smoke until they are smoked enough, and this completes the entire operation; nothing is done more—no securing against flies, for they never enter this dark chamber, and when we want a ham we go to the smoke-chamber and take it from the hook. During a period of twenty-five years I have not lost a ham, but before adopting this mode, through careless smoking, injudicious salting, or from flies, I was continually suffering disappointment with my hams. Possibly hams may have a better flavor by using other ingredients with salt, yet where I have had opportunities of tasting such cured hams, I confess my inability to detect their superiority. R. M. Conklin.

P. S. I might add that hams salted as above mentioned, rarely or never get too salt; once or twice in my experience, they required a slight salting in frying.

Preparing Poultry for Market.

The most successful and profitable way is to do everything *well*. The cultivator who sends his fruit to market, from fine thrifty trees, and packed in the best manner, obtains a more ready sale at higher prices than his neighbors, understands well this truth. It is so with poultry; the difference being three or four cents per pound between that which is dressed and sent to market with ordinary treatment, and such as has been fattened well, and dressed and put up in the most skillful manner.

B. & S. BEATTY of Cayuga county, N. Y., are well known in the New-York markets for their skill and success, and for the excellent poultry which they furnish; and having known personally something of their establishment, where they fatten several thousand annually, and been also furnished by them with additional information, we trust we shall render our readers an acceptable service by giving a brief statement of the management they have adopted.

They purchase their poultry, (chiefly turkies,) at the close of autumn or early in winter, of the neighboring farmers. For, although it would be practicable, as they remark, to raise several thousand turkies on one farm, it would prove unprofitable, as they would require feeding during the whole season, and such large flocks would be subject to disease if kept living together. In ordinary seasons they consider the raising of turkies in proper numbers, the most profitable business in which farmers can engage—that is, in those seasons in which grasshoppers and other insects are in plenty, on which the turkies mainly live till nearly grown, requiring not more than three weeks liberal feeding to fit them for market. They prove also indirectly profitable by destroying troublesome insects.

For fattening, they are fed on good, sound Indian corn Indian meal mixed with warm water is excellent as a change Wheat is very good, but rather costly. Barley, oats and buckwheat are rejected, as being too light food, and they make white and poor looking poultry when dressed. They should have plenty of good clean water, and have access to the bare earth. An orchard is a good place. It is considered essential to give them plenty of pulverized charcoal.

They are never killed unless they are fat. Nothing can make a poor bird look well—although bad dressing will make the best look poor. The heads are not cut off, but they are hung up by the heels on a rope tied horizontally from post to post, where they cannot become bruised by struggling, and are then stuck with a small knife inside the throat, and they as quickly bleed to death as when decapitated. Smaller fowls whose heads are cut off, should always be hung up in this way. They should never be killed with full crops. All that is required in thus bleeding turkies in the throat, is a knowledge of the place of the arteries on each side of the neck. This mode of killing is as effectual as any other, and gives a better appearance to the poultry.

They are generally picked dry, taking care not to tear the skin. They are then scalded a few seconds in water nearly boiling, and the pin feathers all removed. The after scalding, which is repeated two or three times quickly, alternating with cold water, gives them a smooth, plump appearance; and they are then laid on clean shelves to dry. They must not be packed till *entirely cold*. They are usually packed in clean barrels, wrapping each animal in white paper, and with clean rye or wheat straw between them.

Poultry is always greatly injured by freezing, and care must be taken, both in cooling before packing, and in sending to market, that they do not suffer from this cause.

For the New-York market, *their intestines should never be taken out*. For Boston and other eastern markets it is necessary.

A good hand will dress about forty turkies in a day. Clear, cool, dry days should be selected for the work, and damp days specially avoided. In packing, press the wings closely, and press the bird down hard on the breast, the legs extending back; and lay down by successive courses, with straw between each course. Neat, clean boxes would probably be better.

WASHING MACHINES.

Washing days have long since been looked upon as one of the most formidable evils of domestic life, and "to meet with smiles a rainy washing day," was regarded by the poet as demanding a courage somewhat approaching that of a heroic martyr. Knowing these things, we have observed for many years with much interest every mechanical contrivance for lessening this toil; and the great number of machines which have been presented at our agricultural exhibitions and mechanical fairs, shows that others have sympathized with this feeling. Very few of these numerous contrivances, of course, are of much value. Many years ago we selected one which appeared the best, and have since used it with great advantage, and figured and described it in the Illustrated Annual Register for 1857. For more than twelve years no improvement could be found upon it, for ordinary household use.

But during the present year our attention was attracted by various advertisements of the "*Union Washing Machine*," with such apparently extravagant assertions in its favor, somewhat in usual advertising style, as "a child can operate it;" "no soaking or boiling required;" "will wash a garment in two minutes;" "does not wear or injure the fabric," &c. We were induced to examine the machine, and were much pleased with the simplicity of its construction, and ease of its working; and having tried one of them, *they appear to possess all that is claimed for them*.

The work is done by rolling and pressing the clothes at the same time; and the water being kept hot under cover, obviates boiling. We have found the following advantages in this this machine:—

1. It is neat and compact, and occupies but little space.
2. It confines the hot water under cover, and does not steam the room.
3. It is very easily worked.
4. It obviates soaking and boiling.
5. It does not *rub* the garments.
6. It saves at least half the labor required by other machines, or pounding barrels, wash boards, &c.
7. It is simple in construction, cannot easily get out of order, is strongly made, and will probably last many years without repairs.

As a proof of the rapidity of its work, the mistress of the house where it was *tried for the first time*, washed thoroughly all the flannels used for the week in a rather large family, in *ten minutes*, by the kitchen clock. For flannels it appears to be particularly valuable. We do not at present know of any more acceptable new year's present which a farmer may make to his wife, than by procuring one of these machines, which he may do at a moderate price, of J. JOHNSON & Co, 457 Broadway, New-York.

[For the Country Gentleman and Cultivator.

SELF-REGULATING WIND MILLS.

EDITORS CO. GENT.—In your number of Nov. 29th, you state in reply to a question, that "Halliday's Patent Wind Mill is the only reliable and really self-regulating for speed and force in use." I wish to correct your mistake. I have had in use for five years, one of Elgar's self-regulating wind mills, which has never been out of order—the self-regulating apparatus not even adjusted since first put up, and has completely governed its action in the most severe gales that we have had in that time. It needs no attention but to occasionally oil the journals. The only difference in its motion, in a good wind and storm, is that it goes just perceptibly slower in the gale. I have no acquaintance with Mr. Halliday's machine, but it cannot excel this one in its power of governing itself in all weathers, without attention of any kind.

Leawood, Md., Dec. 15, 1860. ISAAC HARTSHORN.

THE RAG WEED OR AMBROSIA.

During a journey the past autumn, by a circuitous route, through the entire breadth of Ohio and Indiana, this weed was observed to be more abundant than any other and perhaps all other weeds together. We think it would be a safe estimate to say that at least one-third as many acres were covered with it, as with the corn crop, abundant as the latter is known to be, and that the rag weed would average at least half a ton to the acre. If therefore, as we suppose, there are five million acres of corn in these two States, then there must be at least one and a half million acres of the ambrosia, equal to half a million tons. These weeds would load a train of farm wagons a ton to each load, as closely as the wagons with their teams could stand, *two thousand miles long!* Instead of this bitter, unpalatable and worthless weed, the soil might as well have grown half a million tons of clover, and form a train of equal length. At five dollars a ton, the crop would then be worth two and a half million dollars.*

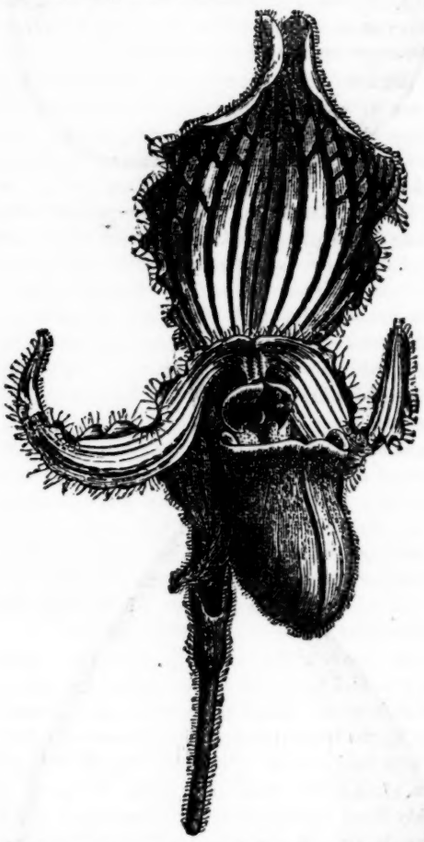
We have never had any other experience with this weed, than to learn that if simply destroyed it will not grow. No weed can extend and flourish under a judicious rotation, adapted to its peculiar character. Some are destroyed if hoed crops are largely introduced; others are driven out by broadcast grain; and others again cannot flourish in grass. A combination of these, with thorough management, will usually clear out all weeds. The ambrosia is apt to follow wheat; but evidently the soil has been allowed beforehand to become foul. It is said that if plowed under, it is nearly as enriching as a crop of green clover; but if a heavy seeding of weeds is given at the same time, it is costly manure.

*This may be an over-estimate for the northern portions of those States, but it is unquestionably an under-estimate for the southern, especially so far as relates to the acreable product of a weed often several feet high and in dense crops.

THE CYPRIPEDIUM FAIRIEANUM.

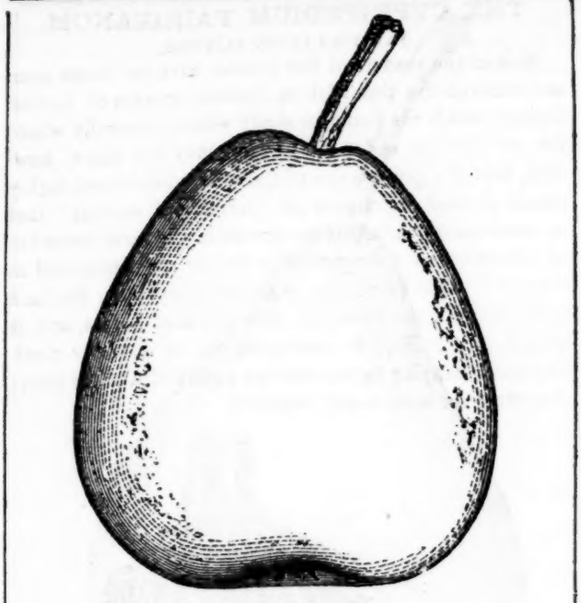
FAIRY'S LADIES' SLIPPER.

Most of the readers of this journal have no doubt seen and admired the beautiful indigenous species of Ladies' Slipper, which are found in shady woods, generally where the soil is moist and peaty. They may not know, however, that the genus is one of the most admired and highly prized of what are classed as "*terrestrial orchids*," that is, orchideous plants that are grown in the earth instead of on blocks of wood suspended in the air and designated as "*ærial.*" This Fairieanum was introduced into England some two or three years ago from the East Indies, and is quoted in the English catalogues yet at $25 per plant The accompanying figure conveys a good idea of the form; the colors are unique and beautiful.

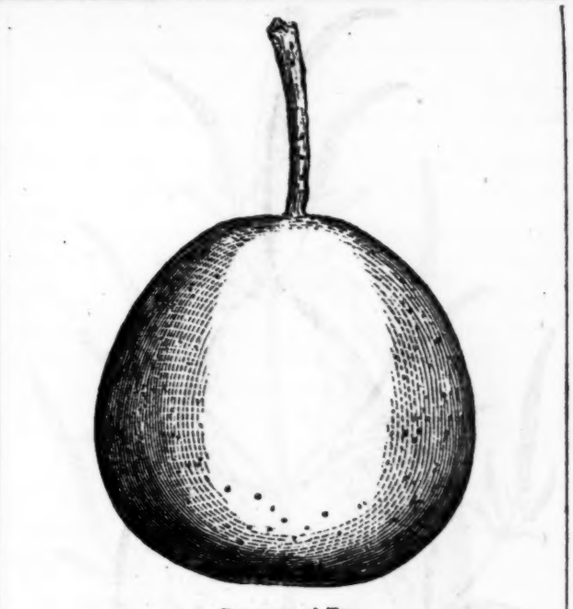


The large upper erect sepal is of a greenish white, veined distinctly with dark green and deep purple. The two lateral curved petals, resembling horns, are also white with stripes of green and purple. The lower petal or lip is very large, is of a dull green, delicately veined and netted with purple. "The blossoms," says Sir Wm. Hooker, "are certainly among the most exquisitely colored and penciled of any in this fine genus." Dr. Lindley described it in the Gardeners' Chronicle as an "exquisitely beautiful species." We do not know whether it has yet reached any of our American collections. The cultivation of this curious and charming family of plants, the *orchids*, has not received any considerable degree of attention from our professional plant growers, but we learn that recently their culture has been taken up with a good deal of zeal by two or three parties, and we may soon expect to hear more about them.

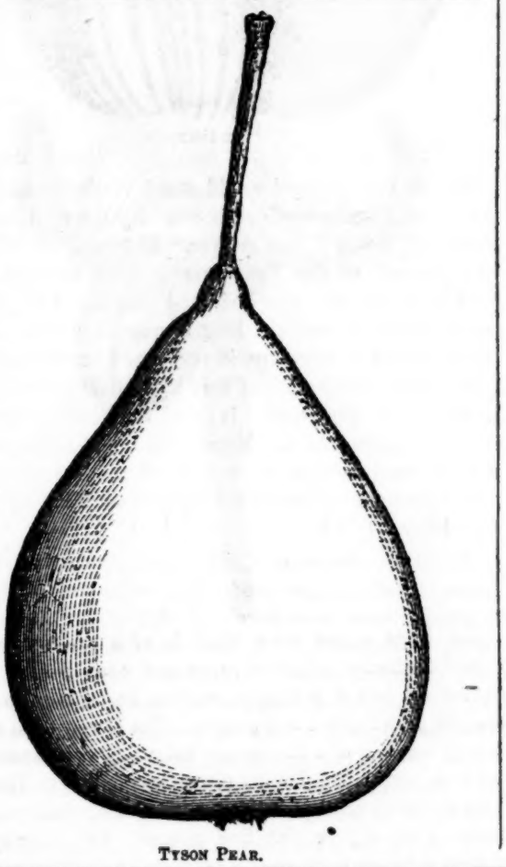
BROOMS.—How are home-made brooms manufactured? I have a small quantity of brush, and should like to work it up this winter. YOUNG FARMER. [Will some experienced broom maker please reply?]



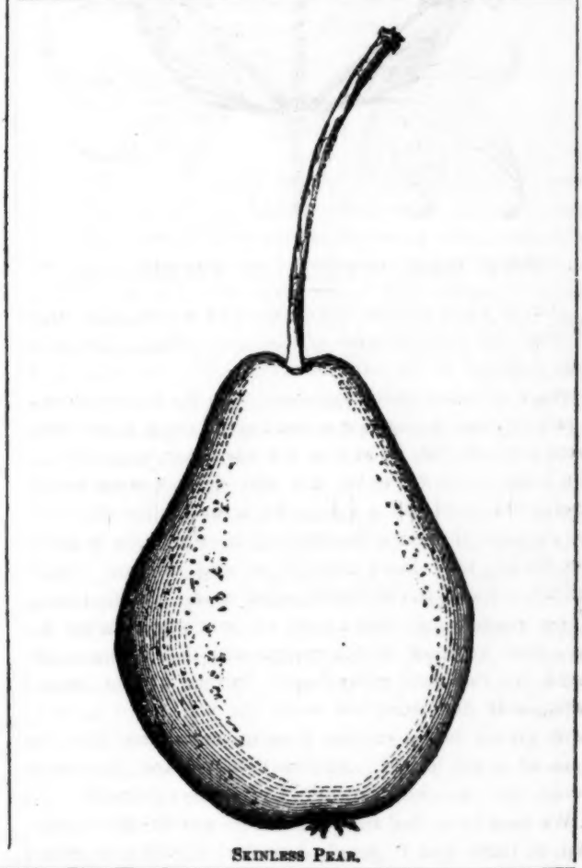
OSBAND'S SUMMER.



DOYENNE D' ETE.



TYSON PEAR.

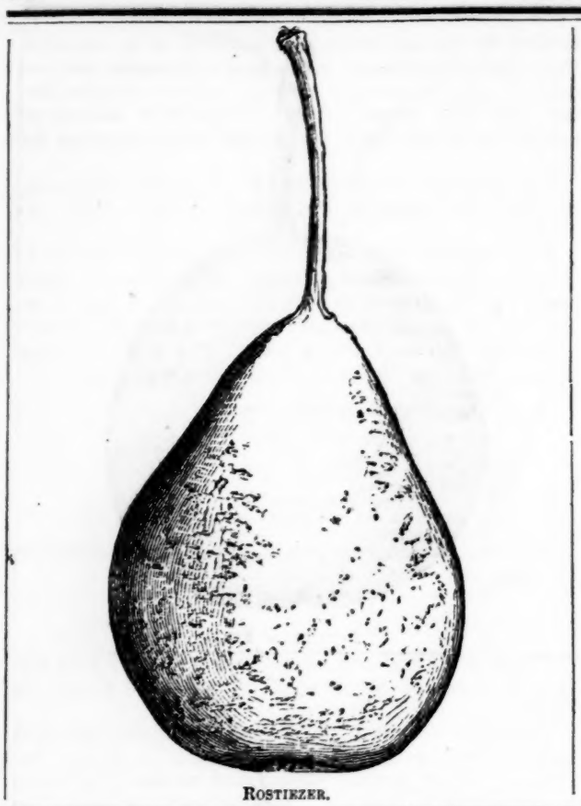


SKINLESS PEAR.

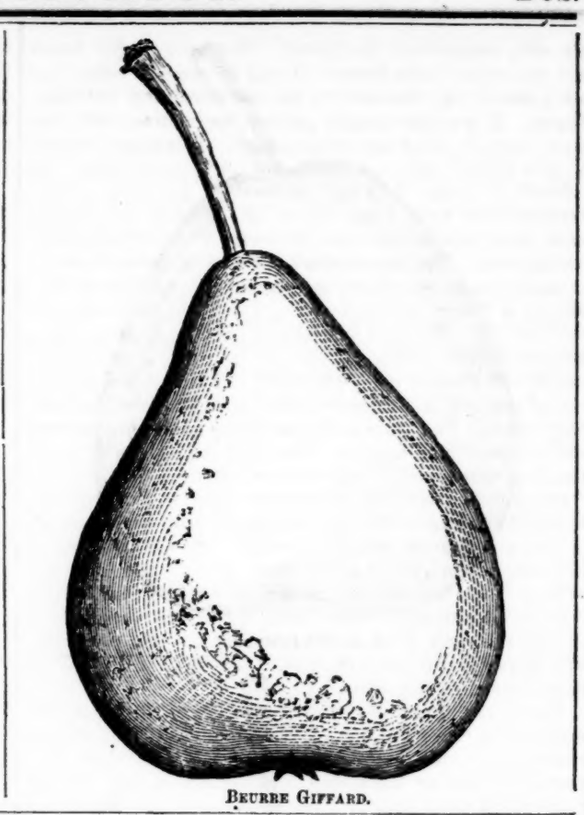
THE OLD AND NEW PEARS.

The improvement of the pear, and dissemination of many new and excellent varieties, are marked features in the progress of pomology. Forty-three years ago, William Coxe described sixty-five sorts, in the best and most complete American work known at that time. Yet out of this number, only about four sorts are now regarded as worthy of cultivation, namely, the Madeleine, Skinless, Seckel and Virgalieu or Doyenné. We have since added, equal to these as an average, the Summer Doyenné, Osband, Giffard, Brandywine, Tyson, Rostiezer and Bloodgood, for summer; Bartlett, Ananas d' Eté, Kirtland, Washington and others for early autumn; for other autumn varieties we have such fine ones as Flemish Beauty, Anjou, Belle Lucrative, Bosc, Autumn Paradise, Nouveau Poiteau, Urbaniste, Louise Bonne of Jersey, Superfin, Sheldon, Lawrence, Beurré Hardy, and others. And yet nothing has been found equal to the Seckel for high flavor, nor to excel it for general hardiness; and for general value, where it is not liable to crack, no new sort scarcely equals the Virgalieu.

In order to assist our readers to make good selections, it is well to name not only good varieties, but those that



ROSTIEZER.



BEURRE GIFFARD.

have been rejected as of inferior value. Some think they have "the best pears in the world," till they see and know of better. We have had the old French Jargonelle sent hundreds of miles, as a new and valuable sort, "very superior," because the honest cultivator was not familiar with our delicious early varieties; and the Summer Bell and Bonchretien are still sometimes eagerly asked for of nurserymen.

The best very early pears—ripening at the same period—and about the time that farmers usually begin to cut their wheat, are the *Madeleine*, an old sort, and *Summer Doyenne*, (Doyenné d' Ete,) a new one. Each sort has its admirers. Some have pronounced the Madeleine the best; it is larger and more melting, while the slight grain of acidity makes it very agreeable as a summer fruit. But it is not so productive as the Summer Doyenné, the tree is not so hardy, and is more subject to fire blight; while the Summer Doyenné, although less juicy, has undoubtedly the highest flavor. On the whole, the votes preponderate in favor of the latter.

Osband's Summer ripens a week or two later than the preceding, and is valuable for the hardiness and fine growth of the tree, its even bearing, and the fair appearance and good quality of the fruit,—although not of the highest flavor. *Bloodgood* ripens nearly the same time, is about the same size as the Osband, is often superior to it in flavor, but sometimes falls below, being somewhat variable; and the tree is slow in growth. Nearly or quite equal to Osband's Summer, and a little later, is the *Sanspeau* or *Skinless*. It is an old variety, whose merits have been too much eclipsed by newer sorts. It is remarkable for its handsome and free growth, and for growing well in different soils—probably no pear thrives so well as this on such as are light or sandy—for its great productiveness, and for the uniform quality of the fruit. It has almost a glossy smoothness, and a very thin skin; whence its name. If it was a new sort, "far brought and dear bought," it would have many admirers.

The *Beurre Giffard* would stand at the head of summer pears, (next preceding in maturity the Rostiezer and Tyson,) if it was a free grower. It is almost as bad in this respect, as the Nelis among later varieties. The growth is slender, crooked, and feeble. The peculiar purplish shoots, and the long slender leaf-stalks, enable the cultivator to recognize it very readily among all other sorts. The pear itself is of very high quality,—rich, juicy, melting, and perfumed. It is of full medium size, and the tree a good bearer. Notwithstanding its poor growth, it must stand as high as any kind of its season, which is about the same as Osband's Summer and Bloodgood, or a little later.

About the same season, there are several other summer pears, of various degrees of value:—*Dearborn's Seedling* is a rather small pear, mostly of high quality, but in some places of little value. It is a handsome grower, and an early and good bearer. Notwithstanding its smallness, it may be regarded as worthy of a place in large collections. The *Zoar Beauty*, a native of Ohio, is a fruit of moderate flavor, but the fine growth and productiveness of the tree, and the handsome appearance of the fruit, render it worthy of attention. It grows freely as a dwarf, and the fruit on our trees has been three inches long, and two and a half in diameter. It is subject to rot at the core, which may be prevented, as in all other summer pears, by early picking and house-ripening. The *Limon*, a Belgian variety, is a small obovate fruit, buttery and melting in texture, and usually, not always, with a high "very good" flavor. It should be in large collections.

Immediately after the preceding, or near the close of summer, several fine pears ripen. Among these the *Rostiezer* is undoubtedly the highest flavored. It holds the same rank among summer pears as the Seckel among those of autumn. Unlike the Seckel, however, it is a strong grower, and it makes a handsome and productive tree. The fruit is a little below medium in size, juicy and melt-

ing, rich, sugary and perfumed. We have never heard any one object to its flavor. Equal in general value, but not quite so high flavored, is the handsome and excellent *Tyson*. It is a fine upright grower, larger than the Rostiezer, and of uniformly good quality. It is a tardy bearer on pear stocks, although ultimately quite productive. As a dwarf, it bears early and profusely. The *Ott*, a new Pennsylvania pear, a seedling of the Seckel, is a rather small, and delicious late summer sort. The tree is a moderate grower. The figure which we give is drawn from an unusually large specimen, grown on the grounds of Ellwanger & Barry, of Rochester. The *Pulsifer* is an Illinois variety. The tree is an upright and vigorous grower; the pear about medium in size; it is melting and juicy, and if well ripened is "very good." The *Brandywine* is one of the best late summer pears, and originated in Delaware county, Pa. It is a vigorous and handsome grower, both on pear and quince. The fruit is full medium in size, but rather dull in appearance. Its quality is usually "very good," although sometimes inferior. *Manning's Elizabeth* is a beautiful and very good fruit, but too small to become a great general favorite. *Moyamensing*, of Philadelphia origin, is a vigorous and productive tree, with an irregular, obovate, rough or knobby fruit. It is "good," sometimes "very good," but must be taken at exactly the right time in ripening, or, as Dr. Brinckle, who introduced it, once remarked to us, "it should be eaten by the chronometer."

There are some old summer varieties, that may be worthy of a passing notice. *Amire Joannet* is the earliest known pear, ripening a week before the Madeleine; it is very small, rather handsome, and the tree a free, upright grower and early bearer. We consider it however as entirely unworthy of cultivation; for although sometimes tolerably good, is more usually dry, mealy, poor, and worthless. The *Little Musk* or *Primitive*, is a week later, even smaller than the preceding, but a profuse bearer, and better in quality. It is but little or no earlier than the Madeleine and Summer Doyenné, and is therefore rejected. The *Muscat Robat* is larger, better, and later, but has not good qualities enough to render it worthy a a place with the best sorts. The *Sugar-top* is about the size of the Madeleine and ripens with it, but the flavor is poor. It is admired however by those who never saw a good summer pear. The *Jargonelle*, one of the best of the old sorts, matures two weeks after these, and if picked early and house-ripened, so as to prevent the core-rotting to which it is so liable, it is often of quite good quality; to some its agreeable acidity renders it a favorite. Nearly all persons would however greatly prefer the Bloodgood, Giffard and Osband, which are nearly as early. The *Julienne* was formerly highly prized, but is not now cultivated in the Northern States. In the South, it is greatly improved both in size and quality, and is one of the very best early pears for that region, ripening, along the borders of the Gulf of Mexico, before midsummer. No sort is equal to it for early bearing, nothing being more common than to see small trees in the nursery row bending under loads of fruit.

[For the Country Gentleman and Cultivator.]

FARMING IN NEW-BRUNSWICK.

MESSRS. EDITORS—The President and Directors of the Mechanics' Institute in the city of St. Johns, a short time since, proposed two prizes of fifteen and ten guineas, respectively, for the best Essays upon the subject—"New-Brunswick as a Home for Emigrants—with the best means of promoting immigration and developing the resources of the Province."

This drew out a number of Essays upon this, to us, interesting subject. They were subsequently published at the expense of the Government, and from one of them I send you the following account of the products of two of our New-Brunswick farms.

One feature, perhaps, you will be somewhat surprised at, viz., the quantity of turnips raised. In British husbandry, as you are aware, this esculent is an essential. But even in our climate, with a long cold winter, we have many farmers, principally however, natives of Great Britain, who raise annually from 1000 to 5000 bushels of turnips, which are used for feeding cattle intended for beef.

The farms are severally owned by Messrs. Ferguson, Rankin & Co., Bathurst, and Francis Ferguson, Esq., St. Johns.

First—Village farm contains 334 acres cleared land, well fenced, and without a stump, besides about 50 acres pasture land, partially cleared, but not fit for the plow. The bulk of the land has been reclaimed from the wilderness within the last fourteen years. The quantity under crop in 1859, was 136 acres, from which were raised:

160 tons hay.			
300 bushels	wheat—weight	61	lbs.
1,400 "	oats, "	38	"
50 "	barley, "	48	"
3,500 "	turnips.		
2,100 "	potatoes.		
240 "	carrots.		
75 "	mangold wurtzel.		

17 pigs were killed, weighing 5,740 lbs.
8 head of cattle killed. " 4,740 lbs.

Besides 25 which were purchased from and fattened on the farm.

Stock on the farm Jan. 1860.

12 horses old and young,	46 head horned cattle,
27 sheep,	13 pigs.

Ninety acres land now plowed, ready for crop next season, 30 of which were stumped last year and plowed in October.

Second, or Somerset Vale Farm.—Containing 200 acres cleared land, well fenced and without a stump, besides a quantity partially cleared, and capable of pasturing at least 50 head of cattle. A portion of the above has been long under cultivation, but it is only within the last few years that an attempt has been made at systematic farming. Previous to that very little stock was kept on it, and the greater part of the crop was removed and consumed elsewhere.

Quantity of land under crop in 1859, was about 130 acres, from which were raised

150 tons hay.			
80 bushels	wheat—weight	62½	lbs. per bush.
About 2,000 "	oats, "	39	"
3,000 "	turnips,		
750 "	potatoes,		
74 "	carrots.		

The stock on the farm January, 1860, consisted of

7 horses, old and young,	26 sheep,
41 head horned cattle,	5 pigs.

72 acres plowed last fall for crops next spring.

Hammond River, N. B., Dec. 10, 1860. J. D. M. KEATOR

THE GARNET CHILI POTATO.

MESSRS. EDITORS—A few facts about this most valuable potato may be useful.

1. It is hardy. In this county this year potatoes have been very much diseased, especially on wet lands. Some farmers that I know have lost 90 per cent of their crop. Varieties usually hardy have failed, and almost every one has suffered. I have dug 420 bushels of Garnet Chilis, without finding one diseased, while Prince Alberts and Pinkeyes, in the same field, were damaged 30 to 50 per cent.

2. It is prolific. On one little patch measuring exactly 97½ square rods, the yield was 210 bushels, liberal heaped measure.

3. It is generally of good, even size, and in appearance surpasses most kinds.

4. It is quite white inside—is a very fair table potato, as good as the Prince Albert I think, but not so good as the Carter. If planted early and well ripened, it keeps remarkably well.

5. All things considered, have we another variety as valuable?

I think that by common consent it should be called the "*Goodrich Potato*," (good rich potato as it is.) We farmers owe its originator a debt of gratitude, which I am glad to learn our State Agricultural Society has acknowledged. Let individuals do so also, by sending to Mr. Goodrich for some, and not buying from anybody else.

St. Lawrence Co., N. Y. T. L. HARISON.

[For the Country Gentleman and Cultivator.]

Agricultural Matters in Canada West.

Now that I am writing you to renew my subscription to the COUNTRY GENTLEMAN, perhaps a few notes in reference to agricultural matters in this part of the world, will not be wholly unacceptable. Though a clergyman, I take a deep interest in rural affairs, and make them, as I think many clergymen might do with advantage, my recreation. But for the higher work assigned me by Providence, I should make farming my business, in preference to any other secular pursuit. In this choice I am not influenced by the haze of romance and the "enchantment of distance," by which many in other walks of life are attracted towards farming, only to be disappointed by their experience of its hard toils and stern realities. I have known something of "blistered hands," and "hayseed in the hair," and am well assured that all the farmer's gain and independence is honorably *earned*. But increased observation of men and things, only deepens my conviction of the superiority of agriculture to most other callings. Of this no more at present, or the "notes" will not be noted.

A six months residence in this region, has satisfied me that for farming purposes it ranks among the most fertile and advantageous on this continent. The farmers are chiefly English and Scotch, with here and there small representations of other nationalities. It is an old settled country, with a thrifty, well-to-do population. Old country methods of tillage are chiefly in vogue. The turnip is a favorite crop, largely raised, with thorough, and therefore most successful cultivation. Properly attended to, carefully housed in winter, it is well worthy the place it holds here and in other British regions. It yields abundantly, leaves the land in good tilth, and is acceptable as food to all kinds of stock.

All the cereals are largely raised in this neighborhood—except Indian corn—against which our farmers seem to have contracted a sort of prejudice. They say it does not succeed well, but this I scarcely know how to credit, since it does well in other localities as far and even farther north. One of our farmers, a very intelligent man, says he could never get more than 25 bushels to the acre, with the very best attention. This is an elevated region, and may possibly be an ungenial realm for "King Corn"—but I shall not believe it until I "try, try again."

You are doubtless aware that this neighborhood is somewhat renowed for its stock—especially Short-Horn cattle and Cotswold sheep. Pigs and poultry are somewhat neglected. I see a good many "land pikes" in my travels, perfect contrasts to the original, typical *sus*, which the Divine Creator pronounced "good." The unsightliness of these lank, lean, raw-boned, long-jawed, caricatures of the hog, is a sufficient reason for carrying on mercilessly, a war of extermination against them, *to the knife;* while the difficulty of fattening them, is a *pocket* argument to the same effect. As for poultry, they are so overlooked that no place is assigned them in the annual shows of either township or county. An acquaintance of mine, the proprietor of a "one-acre farm" in these parts, intends to "astonish the natives," and rouse them to improvement *if he can*, in the items of pigs and poultry.

One of our best breeders of cattle, F. W. Stone, Esq., has just imported a fine young herd of Herefords from England. They were obtained at Lord Bateman's autumn sale, and are described by the Mark Lane Express as "one of the largest and most choice selections of these animals we have ever known to leave our shores at one time." The herd consists of five young heifers and one young bull. They will doubtless add to the wide and well-earned fame of their enterprising proprietor.

Our farmers are not much given to the study of agricultural literature. The Canadian Agriculturist, a monthly, is the only journal on rural affairs, so far as I know, published in the Province. It contains good solid matter, but needs to be made more spicy, and to be illustrated, in order to get a wide circulation. We need take a leaf out of your book in this respect. American agricultural papers do not largely circulate here, partly because of the cost of the postage, and partly because "Yankee-fied" things are objects of prejudice with many.

A good deal of attention seems to be paid to the mater of *implements*. Our farmers are, in this respect, somewhat in advance, I think, of the generality of Canadian agriculturists.

Farm-buildings, generally speaking, are inferior. Stone is abundant, and therefore cheap—lumber reasonable—lime plentiful and unsurpassed in quality, so that facilities abound. Even in cases in which substantial and costly buildings have been erected, there is little or no manifestation of *taste*. Indeed, with but few exceptions, the Canadian farmer does not aspire to realize what, with a correct idea of the capabilities of rural life, you designate in the title of your valuable journal, "*the country gentleman.*" W. F. C. *Guelph, C. W.*

[For the Country Gentleman and Cultivator.]

LARGE vs. SMALL FARMS.

The COUNTRY GENTLEMAN has been for a long time so well supplied with matter, original and selected, that no place seemed left for anything I could furnish. But line upon line and precept upon precept, may do good, even on subjects by many supposed quite hackneyed.

Long ago I urged upon your readers the almost universal need of reform in the size of farms. These, throughout the country, are large, much beyond the capital used in their cultivation, and which, to bring them into the most profitable state, should be used upon them. If by high cuttivation the lands of East Lothian, in Scotland, will bear a yearly rent of fifty dollars per acre, and pay the farmer a fair interest on the capital and labor bestowed on them, surely our lands about Albany may, by a similar outlay of capital, be made much more profitable than at present, when the owner would think himself fortunate in a tenant that would pay him, one year with another, five dollars per acre. It is quite likely that the Scotch tenant paying fifty dollars rent makes more clear profit than ours paying five.

Yet we have few men having skill and capital that are willing tenants at the low rate of five dollars the acre. Such men usually prefer to use their capital in the purchase of wild land at the west, on which to work out a farm for themselves. The temptation of cheap fat lands is constantly before their eyes, and draws them away from the old States, not only from the barren regions of New-England, but from the fertile plains of our own State. I believe this is bad economy in the emigrant, as well as injurious to the country he leaves. Most of the wealth of the world comes from strictly co-operative industry. This industry is most successful in densely settled countries and large cities.

But there are other motives higher than mere money-making that should influence the father of a family in chosing a home for his children. Moral and intellectual culture of their manners and minds is of more value even than good culture of fields and successful breeding of sheep and oxen. High culture of boy and girl, to make them elevated men and women, can only be generally practicable in densely settled communities. In such only, can the best associations be easily accessible. That country is best beloved that is richest in human associations. Ruskin says—"The desire of the heart is also the light of the eyes. No scene is continually and untiringly loved, but one rich by joyful human labor; smooth in field; fair in garden; full in orchard; trim, sweet and frequent in homestead; ringing with voices of vivid existence. No air is sweet that is silent; it is only sweet when full of low currents of under sound, triplets of birds, and murmur and chirp of insects, and deep toned words of men, and wayward trebles of childhood. As the art of life is learned, it will be found at last that all lovely things are also necessary; the wild

flower by the wayside, as well as the tended corn, and the wild birds and creatures of the forest, as well as the tended cattle; because man doth not live by bread only, but also by the desert manna; by every wonderous word and unknown work of God."

The farm should breed as well as feed the best men and women, and to that purpose the owners should direct their most anxious care and their most presistent labor. J. W. S.

How to Grow Fruit Trees from Seed.

Will you, or some of your correspondents, give me a correct way of growing peach and cherry pits? How to freeze, and how long, pear, quince and apple seed before planting, and how deep, and at what time put in the ground? How to grow chestnuts and horse-chestnuts? The best plan of starting grapes from cuttings? Will Arborvitae, Hemlock and Spruce seed grow, sown in the spring? By answering the above before planting time you will oblige R.

Peach and cherry pits should be kept moist or fresh—with cherry pits, this is very important; a few weeks drying will render them nearly worthless, and drying a shorter time may prolong their vegetation a year. They should immediately on taking from the berry, be mixed with moist sand, earth, or mould, and kept moist. They may be planted late in autumn or very early in spring. If planted in autumn, the soil should be quite light, to prevent the formation of a hard crust, which will retard their coming up. Peach stones should not be allowed to dry more than three or four weeks. Exposure to frost only serves to crack and open the shell of any seed. If kept properly moist, and the shell is cracked, freezing is not essential. When apple seed, or peach stones, have been allowed to become very dry, a quick scalding, and then freezing, several times repeated, will much assist vegetation. Pear, Quince and Apple seed, are quite similar, and should be treated alike—being planted half an inch deep in a moist strong soil, and an inch in light soils. Peach pits should be planted nearly two inches deep—and deeper rather than to allow them to dry up in a dry soil. Chestnuts and Horse-Chestnuts should not dry a day—but the fresh and moist nut, the moment it drops from the tree, placed in moist sand or mould, and kept moist till planted. If this care is observed, there will be no difficulty whatever. Otherwise, they will certainly fail. Grape cuttings should be about a foot long, of one year's growth, placed sloping in the soil, and the earth packed closely or beaten about them. It should be done very early in spring, but better in autumn,—and protected by a thin coat of fine manure spread on the surface. Evergreen seed, if good, will grow when sown in spring—but the young plants must be shaded from the hot sun.

[For the Cultivator and Country Gentleman.]

WINTERING COLTS.

Editors of Co. Gent.—By sad experience I found it a bad way to winter colts in a box stall. Three years ago I kept a colt in a box stall, 12 feet square—gave it good hay and two quarts of oats a day. When grass came in the spring it looked fine, and I felt proud of my colt. I turned it out and in a few weeks it was *spavined*. An almost total disuse of its limbs for six months had rendered its limbs unable to stand the active life of the open field. Its hoofs also grew very long, and perhaps aided in ruining the colt. Give your colts a large field, *all winter, to roam in*, with an open shed. Give them two quarts of oats a day the first winter and good hay, and you can count upon raising good sound horses, if you raise the right breed. Caleb Winegar. *Lake Grove, N. Y.*

[For the Country Gentleman and Cultivator.]

Two Simple Rules in Cheese Making.

1st. *To ascertain how much cheese you ought to get from your milk.*—Multiply the number of pounds of milk by eleven—point off two figures for decimals, and the product is pounds and decimals of a pound of cheese fresh from the press.

Example.—Given 495 lbs milk—how many pounds of cheese ought it to get? 495X11—54.45 lbs., or 54 45-100 pounds.

This rule applies to the summer. In October you may safely make your cheese a little heavier from the same milk, or perhaps the October milk has a little more cheese in it. The rule is founded on experience. Of course this green cheese must lose a great deal in curing, since both the butter and casein constitute but about eight per cent. of milk.

2d. *For ascertaining the quantity of salt for cheese.*—Multiply the number of pounds of milk by three—point off three places for decimals. Your answer is in pounds and decimals of a pound.

Example.—How much salt for the curd of 495 lbs. milk? 495X3—1.385, or one pound and 385-1000 of a pound. Now reduce this decimal to ounces, by multiplying by sixteen—point off three decimals as before. Your answer is 385X16—6 160-1000 ounces, or 1 lb. 6 1-16 oz., is the quantity of salt required for the cheese of 495 lbs. milk. J. C. W. *Utica.*

[For the Country Gentleman and Cultivator.]

MACHINES FOR MILKING.

Eds. Co. Gent.—Having seen several inquiries in the Co. Gent. for information about machines for milking cows, I have thought it not improper for me to say through your paper that at the last State Fair, which was held at this place, I saw what I supposed was a fair trial of such a machine, which resulted in an entire failure.

I owned the cow upon which the trial was made and know that the circumstances were all favorable to the success of the machine, if it had had the power to do the work required of it.

The cow was in the habit of being milked between six and seven o'clock in the morning. But on the morning of the trial she was left till 9 o'clock, to allow the owner of the machine time to collect a committee to witness the operation. Consequently the flow of milk would be unusually free. The cow has ordinary sized teats, milks easy, and stood perfectly still; yet the machine progressed not more than half as fast as a smart milker would have done by hand. And after the operator pronounced the job finished I drew more than a quart, I think, by hand.

The machine was made so as to have the teats inserted into a tapering tube, and by a lever power the air was exhausted from the lower end of the tube and thus became a suction pump on the cow.

One word more in regard to the impracticability of machine milking. It is a fact well known to every person in the habit of milking, that hardly any two cows require exactly the same style of milking, especially in finishing up. Some will milk clean by pressing the teats only, while with others it is necessary to pass the fingers far up the udder, and by a heavy pressure foree the last milk from it.

Then again the size of the udder and teats and the location of the same—some setting far apart, others close together; some setting well forward, and others far back, are obstacles constantly in the way of machines.

Then, too, how inconvenient if a cow starts, or is driven unexpectedly while milking with a double suction pump attached to her. An operation I apprehend not very quieting to a wild or timid disposition. B. S. Carpenter.

Chemung Co., Dec. 31.

STRANGLES AND GLANDERS.

I wish you could, in your valuable CULTIVATOR, give a cure for the strangles, and also the glanders in horses. They are diseases that horses are very much troubled with here. J. H. *Campbellton, N. B.*

We gave in a late number, some directions relative to the treatment of strangles. Glanders, or pulmonary consumption in the horse, according to Dr. DADD, is a super-induced disease, brought on by the bad treatment of slight ailments, more especially colds. He says, "Suppose we select a horse whose general health shall be impaired, let him be exposed to the storm several hours, and he will take what is called in popular language, a "cold." Let him now be treated according to the "kill or cure system,"—*bleeding* and *purging*. The secretions become impaired; loss of appetite sets in; the "coat stares;" the nostrils discharge acrimonious matter; ulcerations of the cartilage and nose follow, and we have a pure case of glanders. Or,—confine the animal in a crowded stable; morbific matter is deposited, and tubercles of the lungs result." He states that neglected horses often have glanders; while those under good management, belonging to our wealthy citizens, rarely or never. As illustrating the mode of cure, he gives the case of a fine dark bay horse, whose symptoms were a discharge of purulent mucous—breath fœtid—nasal membranes, purple, red, and with ulcerations; coat staring, appetite poor, flanks tucked up, respiration gurgling. *Treatment*,—nasal passages daily injected with pyroligneous acid—diet, equal parts of wheat flour and oat-meal—drink, eighty drops of elixir of vitriol to a pail of water. Some medicines were given, as symptoms required, which we cannot here detail. A drench was occasionally given of three ounces of brandy with one of salt. The treatment lasted three weeks. He recovered, except an occasional cough, and sold for one hundred and seventy-five dollars.

[For the Country Gentleman and Cultivator.]

FATTENING HOGS ON DRY CORN.

EDITORS CO. GENT.—Your correspondent, W. HALL, tells of a neighbor his—a farmer all his life, and over seventy years of age—fattening his hogs in a dry pen, *without water or slops*, giving them *nothing but corn*. He speaks in terms of commendation of this practice, and says—"Had I known the above 20 years ago, it would have saved me a great deal."

I had always thought that hunger and thirst were but the cravings of nature, of which all animals more or less partook, from the highest order in the scale of beings down to that of the lowest. To satisfy *hunger*, a bountiful Creator has made the most ample provision—to quench or satisfy *thirst*, although "men have found out many inventions," no substitute has ever yet been found equal to pure water. Now I will not say that hogs cannot be fattened with corn alone without water, for I have never yet made the experiment, but I do say that hogs will fatten very well with a regular supply of *both these articles*. There is a way, however, that some farmers have of giving their hogs *too much water*. It is this—pouring large quantities of it into the swill-tub, and then persuading *themselves*, for the *hogs know better*, that it is very good food. Too much *slops* won't do for either men or hogs.

From some observation and experience, I have come to the conclusion that hogs in a close pen require something more (if you would have them do well,) than either corn and water, or *Indian meal* and water, for I have tried both this winter, and think there is economy in *grinding corn*.

I found that mine would leave either corn or meal when soft brick were pounded up and thrown in the pen—that they partook of charcoal with the greatest avidity—that wood ashes seemed to be relished, and sometimes a little coarse salt.

Some farmers are in the practice of fattening their hogs in a lot or small enclosure, where they can get to the ground; in that case they will most likely find in the *soil* what they require. Ground bones, I incline to think, would be serviceable in the pen, as well perhaps as to cows and calves in the stall, but not having made trial of them cannot say.

I have heard persons maintain that sheep did not require water; but will they not eat snow as a substitute? Let any one try, that is so disposed, to fatten a lot of sheep on clover hay and corn—give them as much as they will eat, but carefully exclude water, and he will save *corn* by it—not have quite so many to feed, as there would probably be *a few to skin*. "Prove all things, hold fast that which is good." C. *Salem Co., N. J., 1st mo. 1st.*, 1861.

[For the Country Gentleman and Cultivator.]

To make 1 pound of Butter into 4 in Cooking.

EDS. CO. GENT.—Enclosed I send you an excellent recipe for the kitchen, which we have had the satisfaction of using in our family for some years past. If you think well of it, please make it generally useful by giving it a place in the Co. GENT. A TERRE HAUTE SUBSCRIBER.

Economy--Excellence--Convenience.

ROUX.—This is the technical name of a preparation of great importance in the French cuisine. It may be translated *thickening*, and with it is formed the celebrated velouté and allemande, the basis of most other sauces.

To prepare Roux, according to Francatelli, take one pound of sweet fresh butter—perfectly free from milk or water—put it into a large iron sauce-pan—melt it over a gentle fire—remove, and add three pounds sifted flour—mix thoroughly with a wooden spoon or paddle. When mixed and perfectly smooth, place the sauce-pan in an oven sufficiently heated to bake bread, for *one hour precisely*, taking it out, beating and stirring it well, every *ten minutes*. Then turn it out on a plate, smooth it over with a case knife, and put away for use. It will become a substance somewhat resembling cheese.

To use, cut off a portion and mix it carefully with warm, (not hot) broth, milk or water, and season for whatever sauce you desire. Some practice will be necessary to hit the exact quantity required. Mix a little in a bowl perfectly free from lumps, before adding to the sauce, which, when done, should be as smooth as oil, without the sign of a lump. Hence the name velouté, smooth as velvet.

Roux, when properly prepared and mixed, may be used for giving body to soups, gravies, stews, and made dishes of every description—sauces for vegetables, fish, stewed oysters, terrapins, meat pies, fricasees, &c., &c.

Also for various kinds of sweet sauces for puddings, and with eggs and vinegar, a good dressing for slaw, salads, celery, &c.

For Espaniol or Brown Sauce.

Take some of the Roux and a lump of loaf sugar, and brown carefully over a brisk fire in an iron vessel. This may be done to any shade, but be very careful not to burn it, or it becomes bitter and spoiled for delicate sauces.

In this way, in Queen Victoria's kitchen, one pound of butter is made into four for cooking, and a great deal of trouble saved. Francatelli was her chief cook.

How to Cure Hams without Smoke.

EDS. CO. GENT.—That course, in any undertaking, which accomplishes our object with the least labor and in the simplest manner, is the one which should recommend itself to our consideration.

After trimming hams pork-house style, and rubbing them well with salt, I sprinkle salt over a floor or platform, and lay them down flesh side up, so as to economize space. To each ham I give a teaspoonful of pulverised salt petre, then pack on salt as long as it will lay. In this condition I leave them until they have taken salt, and before the fly makes its appearance. Then I take them up, knock and rub off with a wet cloth, all adhering salt, expose them to the air to dry, and when dried hang them up in *a high, dry, dark and airy loft, to cure without smoke*. Thus cured they will pass in any market or meet the palate of the most fastidious epicure.

Railroad Pass, near Paris, Ky. W. K.

[For the Country Gentleman and Cultivator.]

ON REARING TURKEYS.

BY C. N. BEMENT.

With most persons the rearing of turkeys is found rather difficult, owing probably to the want of a better knowledge of the nature and habits of the bird. It is important in breeding animals of any kind to attend to their natural instinct as much as possible, and it is no doubt from the neglect of this that all the difficulty of rearing them may arise. If attempts to rear turkeys, therefore, have not been crowned with success, we may impute it to the want of a knowledge of their natural habits, and the unskillfulness and inexperience of those to whom they have been entrusted.

As to the relative value of the ordinary varieties, it would be almost difficult to offer an opinion; but those who suppose the *white* turkey to be the most robust and easy to rear, are decidedly mistaken, both in theory and in practice where the certain test of experience has shown to the contrary. The copper-colored, the brown and ashy grey are among the most difficult to rear; but their flesh is considered very delicate—a circumstance, however, that may partly result from their far greater delicacy of constitution and the consequent extra trouble devoted to their management.

The black and bronze-colored, which approach nearest to their wild relative, are decidedly superior in every respect, not only as regards greater hardiness, and consequent greater facility of rearing, but as gaining size and flesh more rapidly, and that being the very best and prime quality—the wild turkey only excepted. Fortunately, too, the bronze and black seems to be the favorite colors of nature, and dark colored turkeys are produced far more abundantly than those of any other hue.

In hatching turkey chicks we have found it a good plan to place two or three fowl's eggs under the sitting turkey after one week, to teach the young turkeys how to peck. This is a good plan, for the activity of the chickens does stir up some emulation in their larger brethren; the eggs take but little room in the nest, and at the end of summer you have two or three very fine fowls, all the plumper for the extra diet they had shared with the little turkeys.

In four weeks the little turkeys will be hatched; and then the question arises, "how are they to be reared?" Some recommend removing the chicks from the mother as they are hatched, but we are not of that opinion; nature seems to be the best guide, as they generally keep under the mother, as animal warmth is, without doubt, infinitely more necessary to them than frost. Some say plunge them in cold water to strengthen them. Others say, make them swallow a whole pepper corn. Others again say, "give them a little ale, beer or wine," which we say is worse than nothing.

Here again our advice is to follow nature. Give them nothing; do nothing to them; let them be under the mother's wings at least twenty or twenty-four hours. There is no occasion for alarm if, for hours, they content themselves with the warmth of their parent, and enjoy her care. Yet some food must be provided for them, and this should be, of course, suited to their nature and appetite. Here again let the simplicity of nature be a guide. In their natural state the young are supplied with ants' eggs, grubs, etc; in a domestic state they should be furnished with hard boiled eggs, chopped, but not too fine, curd, crumbs of bread soaked in milk, shreds of fat meat and liver boiled and minced are excellent things for them when quite young; as they grow older, fine hominy soaked in milk, lettuce, nettle-tops, if procurable, leeks and the green of onions are also excellent for them. Turkey chicks do not like their food to be minced much smaller than they can swallow; indolently preferring a meal at three or four mouthfuls than to trouble themselves with the incessant scratching in which chickens so much delight. But at any rate the quantity consumed costs little or nothing—the attention to supply it is everything.

After the young turkeys have remained under their mother's wings twenty or twenty-four hours, place them and their mother in a *roomy* coop or pen, in the sun on the grass. Some, if the weather be fine, tie a long piece of flannel list round one of her legs, and fastened to a stump or stake driven in the ground. But we prefer the coop or covered pen, which saves her ever watchful anxiety from the dread of enemies above, behind—the hawk, the rat, the weasel and the fox; and also protects herself—she will protect her young—from the sudden showers of summer.

The mother turkey should be fed abundantly after hatching, as well as before, "for though she does not give milk, she gives heat, and let it be observed that as no person ever yet saw healthy pigs with a poor sow, so no man ever saw healthy chickens with a poor hen." This is a matter much too little thought of in the rearing of poultry, but is a matter of the greatest consequence. Never let a poor hen set; feed the hen while setting, and feed her most abundantly when she has young ones, for then her labor is very great; she is making exertions of some sort or other during the whole time, in order to provide food or safety for her young ones.

When the turkey hen may be allowed her full liberty with her brood, depends so much on season, situation, etc., that it must be left to the exercise of those who have the care of them.

As damp or cold is fatal to turkey-chicks, so is intense sunshine; and hence they should not be led to pasture under a scorching sun, unless indeed care be taken that the lot is well shaded. Should a storm come, let them be housed at once. Turkey-chicks thould not be suffered to stray too far, for, independently of the risk they incur in case of a sudden shower, it must be remembered that they are as yet incapable of encountering any great fatigue, and their condition will be anything but benefitted thereby.

It will always be recollected, in reckoning the advantages with the expense attendant on the rearing of these birds, that, until you want to fatten them, you need be at no particular pains relative to their food, after giving them their liberty, as they are quite able to provide for themselves. They are great insect hunters—turn them into a field infested with grasshoppers, and they will grow astonishingly. In thus readily providing for themselves, they are also greatly assisted by the easy character of their appetite—grass, herbs, cabbage, corn, berries, fruit, insects, tadpoles and reptiles.

We have now afforded all the information relative to the rearing of turkeys that we have been able to collect, and also all that our own experience enables us to add on our part.

Hanging and Climbing Plants for Vases, &c.

There are many beautiful trailing or climbing plants which, suspended in baskets or vases in the plant room or parlor, make elegant ornaments.

Lobelia gracilis is one of the prettiest plants we know of for this purpose. When covered, as it will be when proper care has been taken of it, with its immense profusion of flowers of an elegant blue color, it must be confessed a charming ornament.

The Nierembergias are neat, beautiful plants for this purpose. The Torenia Asiatica is one of the most beautiful plants we know of, in a hanging basket.

Lysimachia Nummularia, a strictly hanging plant, is of the easiest culture and with its bright yellow flowers and very pretty foliage and graceful habit, should be a great favorite.

For climbing plants, the Maurandia is one of the best. Neat and elegant in foliage and with pretty fox-glove shaped flowers it is exceedingly well adapted for the plant room. Lophospermum scandens is also good. G. B. H.

Inquiries and Answers.

BLACK KNOT—SALT.—A good many years ago, before those ugly black *knots* appeared generally on our plum trees, I read in a Philedelphia paper, under the head of agriculture, what was said to be a sure preventive of that disease. It was simply to pour very strong soap suds at the foot of the tree. Anxious to try it, I went immediately out, washed out the bottom of a large kettle that had been used in making soap, and applied the rinsings agreeably to directions at the foot of one tree. It was very strong, and I flattered myself if there was any virtue in the prescription, that tree at least was safe This was early in the spring. Before fall there was hardly a joint in that tree from which a gum did not ooze, and the next season it was literally covered with black knots. No other trees were affected in my garden until the next season. Did the soap suds probably hasten the disease? J. L. [Strong healthy trees usually withstand the disease best, and feeble ones are often most affected. The overdose of the soap, by injuring the growth, may have rendered the tree more susceptible--but probably it was merely accidental. A very little soap is good—a heavy overdose is poison.]

ANOTHER FACT.—In the same paper—one year ago last spring—I read an article on the cultivation of the quince. It recommended a liberal application of salt as a fertilizer—at least a quart under each bush. I had that spring set out two bushes where I did not care to have but one grow. Therefore, although I had not forgotten the apparent fatal effects of soap suds on plum trees, I hastened to apply about half a pint of salt to one of my quince bushes. In two weeks I discovered the leaves put on a yellow autuumnal appearance, and before fall it was as "*dead as a nit.*" Did the salt kill it? J. L. *Clay, N. Y.* [Unquestionably. A smaller quantity, spread broadcast, would have done no harm.]

SIZE OF HOG APARTMENTS.—I desire to be informed what size I shall build my pig pens, to accommodate six hogs to the pen, when ready to kill—also the best manner to build, and the best manner to feed my pigs from the time they are weaned until fit to kill, at twelve or fifteen months, in order to get the most pork with the least feed E. G., JR. *Wis.* [Swine, while fattening, do not need much exercise. A skillful farmer informed us that he found it a matter of economy to cut grass or clover with a scythe and throw it into his piggery, rather than suffer the loss of flesh occasioned by their roaming the open field for it. The apartments should be large enough to admit of easy and thorough cleaning, as cleanliness is of great importance to success. Apartments three or four times as large as the animals will cover, if kept clean, will be ample; but the bed and feeding rooms, are best if separate. See the plan in second volume of *Rural Affairs*, p. 33, or in the *Register* for 1858. In large establishments it is found best to cook the food; but in one of the size our correspondent mentions, *grinding* alone, will answer, and it should never, if practicable, be omitted. Ground meal will do well if given dry—with only so much water as the animal will drink besides, or still better, clear undiluted sour milk, all that can be given. An animal will grow rapidly on sour milk alone, and fatten well with a little meal added. The worst kind of food is that which is highly diluted, as a thin slop; or milk with much water mixed; or very thin gruel; all of which load and distend the animal, without contributing much to its nourishment, and make big-bellied and lean pigs.]

CATARRH IN SHEEP.—Please tell me through your excellent journal, if there is any effectual remedy (if so, the ingredients,) for sheep that are troubled with a discharge at the nose. Tar is not very easy to apply at this season of the year. A SUBSCRIBER. [If the discharge is caused by catarrh or influenza, it will be important to keep the sheep warm and well sheltered. The treatment must vary with the symptoms, and it is difficult to give general directions. One case may be accompanied with costiveness, another with diarrhea. To promote expectoration when the disease is "tight," molasses and water may be given. Rubbing the legs and ears with red pepper is often useful, to induce circulation in cases of torpidity. But as a general rule shelter and good food, warm mashes, &c, will be best. Pine boughs are said to answer the same end as tar. Prevention, by avoiding exposure to cold winds or wet ground, is worth more than all cures.]

SPREADING MANURE IN WINTER.—Can you, or any of your correspondents, inform me as to the propriety of hauling manure during the winter from the stables, directly and daily, and distributing it on grass land, or on land to be plowed in spring for corn? If done, should it be spread or left in heaps until spring. C. B. P. *Belvidere, Ill.* [It may be drawn out and spread at once upon the land. At the first thaw, it settles down in contact with the soil, and the soluble parts are retained, and every successive rain washes it in. If the manure is perfectly fresh, and the soil quite clayey, it may be best to leave it in heaps long enough to cause partial fermentation before spreading]

TO PREVENT MANURE FROM BURNING.—In answer to an inquiry, I would say that I think the proper way to prevent manure from becoming fired, would be to strew shelled corn over it and turn in hogs once a month to stir the mass. I. D.

SPAVIN.—What will check a *bone spavin* or cure it, when it first makes its appearance? A SUBSCRIBER. [The best remedy for spavin, taken at the first symptoms, is *rest.* Turn the animal out to grass, if in summer, or give him a stable with a soft floor, or a warm yard, if in winter. A cooling lotion may abate any inflammation; and may be made by mixing alcohol, vinegar, and common salt, and applying it by means of a broad flat sponge, occasionally dipped into the liquid, and drawn around by a broad strip of tape sewed to it. Prevention is always better than cure; and be sure never to breed from a diseased animal, and be careful never to strain the limbs of a young animal by hard work.]

SWINE.—Can you tell me where I can get pure bred Essex, Chester white and Berkshire pigs? S. L. *Chatham, C. W.* [You can get the Essex of C. S. Wainwright, Rhinebeck, Duchess Co., N. Y.--the Chester of T. Wood, Penningtonville, Chester Co., Pa., and the Berkshire of Thomas Gould, Aurora, Cayuga Co., N. Y.]

WATER PIPES.—Can water be brought down a slope, say grade ten inches to the rod, in hard burned tile, plastered at the joints with water lime? Is it as good as water lime pipe? The water is to be used at the house and barn. What is considered the cheapest and best? With water lime pipe, if it gets stopped up you cannot tell easily where it is, with tile, if it gets clogged, I should think the water would force its way to the surface through the tile. WILLIAM RHODES. [Water may be brought in tile as mentioned, if there is a gradual and regular descent, and no pressure or head. Or the pipes might be imbedded in clay, of the consistency of brick clay. If any pressure is given, the tile should be wholly bedded in water lime mortar three-fourths of an inch thick—when well hardened, it will bear several feet. We do not think the water would ooze through the sides of the tile sufficiently to mark a place of obstruction, at the surface of the ground; but might doubtless through fissures. Tile, encased in water lime, is probably the cheapest, where the head is moderate.]

SPECIAL NOTICE.—The inquiries of L. B. W., Athens, Vt., as well as those from numerous other correspondents, induce us to say—1. That while we should be glad to serve all our friends, it is utterly impossible for us to reply to inquiries by letter.—2. That all letters as to prices, and transportation of stock, implements, &c., should be addressed to the breeders of such stock, or the dealers in the articles wanted, for a list of whom reference can at any time be made to our advertising columns. And we may also add, 3. That answers to inquiries, which involve the recommendation from interested parties of any article publicly offered for sale, should come in the form of Advertisements, and be accompanied by a remittance accordingly.

GRINDING GRAIN FOR SHEEP.—Can you tell me whether any reliable experiments have been instituted to prove that it is economical to grind grain for sheep, giving one-tenth for toll? A good many here think that it does not pay to grind grain for sheep, as they masticate whatever they eat so thoroughly and digest it completely. J. W. S. *Portage Co., Ohio.* [We know of no decisive experiments. Will some of our sheep farmers state any positive knowledge they have on the subject.]

DISEASE IN A STEER.—We have a steer that has been disordered very bad about two months—at first with swelling at the mouth, but that has left, and still a great difficulty in trying to eat; he has lost flesh very fast, until he can hardly walk about Can you tell me what is the complaint, and what would cure? J. S. *Lewis Co., Va.* [It is somewhat difficult to know the disease without more of the symptoms. It may be the *thrush*—for which Dr. Dadd recommends the application with a swab or sponge, at first, of a mixture of 2 ounces of golden seal and one ounce of tincture of Matico,* with 4 ounces of honey. In cases of longer standing, affecting the whole alimentary canal, and usually causing purging, he recommends 2 drachms each of sulphur and golden seal, and 4 drachms of Matico, mixed with a pint of water,

* A plant from Peru, a carminative stomachic.

and given to the animal. We have no doubt that a solution of chlorate of potash would be excellent, especially in the early part of the disease, say an ounce in a half gallon of water, a half pint or less given at a time; and that where Matico cannot be had, an infusion of slippery elm bark would be useful. Raspberry leaves are good, but cannot be had at this time of the year.]

CISTERNS FOR CATTLE.—Is rain water from cisterns good for cattle? It is a tedious operation for us to draw water from a well 25 feet deep, for 20 head of cattle. If they will relish it we should not have to raise it so high for them. YOUNG FARMER. [Rain water is good for cattle, and they will drink it readily when accustomed to it. Cisterns stirred freely by use, will not become much foul.]

SUN'S DECLINATION.—A correspondent asks the meaning of the term "Sun's declination," in the last number of the Register. It is the distance north or south of the equinoctial, a circle in the sky corresponding with the equator on the earth. At the time of the equinoxes, the sun, being on this line or circle, has no declination. It is the same thing as applied to the heavenly bodies, as latitude to objects on the earth. (The term *latitude* as applied to heavenly bodies, is quite a different thing.) These terms are explained in elementary works on astronomy.

EGG PLANT, &c.—Although ashamed to confess my ignorance, I would like an answer to the following queries. 1st. What is the egg plant, how is it cultivated, and how is it used afterwards? 2d. Is there such a thing known as "the beefsteak plant," and if there is, what is it, and how is it cultivated and used? INQUIRER. [The egg plant is a vegetable of the Solanum tribe, and bears a large fleshy fruit, which is usually fried in thin slices, but sometimes stewed or used in soups. The seeds are sown in an early hot-bed, and when two or three inches high transplanted into another hot-bed. When the weather becomes warm they are set out in rich open ground, where they are kept well cultivated. They will be fit to use from the middle to the end of summer. We must call on some of our correspondents to explain what the beafsteak plant is.]

"BEEF STEAK PLANT" is Begonia Evansiana—a very old and very ornamental plant, but of no culinary use. T. M.

SALT AND NITRE AS MANURE.—I have noticed several articles in your paper from the pen of Mr. JOHNSTON, (the best writer on agriculture I ever read,) on the subject of wheat, in several of which he recommends salt to be sown in the spring or fall. Now what I wish to know is if Mr. J. thinks a little saltpetre in the the salt would do any harm. I can buy salt that has been used by pork men in Louisville for 60 cents per barrel, which has a very small proportion of saltpetre in it; and also some blood. W. W. L. *Kentucky.* [Saltpetre is regarded as a powerful manure, but has never been much tested, on account of its high price. On light soils it is said to have produced decided results when not applied at a heavier rate than 50 or 100 pounds per acre. We have no doubt that the salt spoken of by our correspondent will be none the less valuable for the mixture it contains.]

ASPARAGUS PLANTS.—*A. P.* The price of Asparagus plants, two years old, at most nurseries is, we believe, $1 per 100.

FATTENING SWINE.—Is it cheaper to avoid winter feeding and kill pigs at 9 or 10 months old, feeding in a pushing way while they live, as *some* of your correspondents recommend, or to keep in growing condition on grass, slops, grain and potato field gleanings, and corn in default of these, till 15 or 18 months old, and then push with corn and pumpkins for the final fattening. In the west we deem the latter the cheaper? T. B. *Kentucky.* [This is an interesting question, worthy of further investigation. We are not aware that fully reliable experiments have been made on the subject, although many farmers have made up their minds entirely to their own satisfaction, from guessing. Decisions may be made apparently on good and sufficient grounds, and yet prove erroneous. There are so many causes for success on one hand and failure on the other, that all circumstances need to be carefully taken into consideration. For instance, one farmer may have a breed that takes on flesh freely, like the Berkshires; he may feed regularly, prepare his food well, preserve comfort, cleanliness, &c, and make three times as much pork out of the same food, as his careless, irregular, slip-shod neighbor, who feeds lankpikes only. It would make but little difference whether the former selected young or old swine for feeding, so far as the decision against the system of his careless neighbor was concerned. We would like the opinions of skillful farmers—and if fortified by weighing, measuring, &c., all the better.]

POULTRY.—What variety of chickens are the most hardy and productive, and how can I cure a diarrhea that is fatal among them? A. S. M. [There are so many varieties of chickens of nearly equal hardiness and productiveness, that it would be a difficult matter to decide as to the best. Mr. Bement, in his Poulterer's Companion, recommends the following treatment for diarrhea: "The treatment is simple, and of course depends upon the cause. When the disease is brought on by a diet of green or soft food, the diet must be changed and water given sparingly. Five grains of powdered chalk, the same quantity of rhubarb, and three of Cayenne pepper, may be administered; and if the relaxation is not speedily checked, a grain of opium and one of powdered ipecacuanha, may be given every four or six hours. Dr. Bennet recommends, "when it arises from undue acidity, chalk mixed with meal; but rice flour boluses are most to be depended upon."]

SANFORD'S FARM MILL.—In answer to an inquiry in your paper of Dec. 27, I have to say that I put in my saw mill one of Sanford's largest mills, and have ground about 800 bushels without one cent repair. The mill works to a charm. The shaft must be kept oiled. Said mill was bought of R. L. Howard, Buffalo. E. N. THOMAS. *Wayne Co., N. Y.*

SOWING PLASTER, &c.—Permit me to say, in answer to an inquiry in the Co. Gent. of Dec. 27, that Mr. S. P. Hubbell, Unadilla, Otsego county, N. Y., has patented a machine for sowing plaster, lime, guano, &c., as well as grain of all kinds, which is highly spoken of by those who have used it in this section. It received the first prize at the last New-York State Fair, and also at several County Fairs. It costs $40.
Otsego County. A. B.

PLASTER ON WHEAT, BARLEY, &c.—I would like to ask you through the columns of your paper, or some of your correspondents, the following questions:—1. What will be the effect of sowing plaster on wheat in the fall, soon after it is sown—say about the time it begins to come up?—2. What will be the effect of sowing plaster on barley at about the same period of its growth in the spring?—3. In the common practice of sowing plaster, does it benefit the wheat or the clover only? J. A. C. *Oakfield, N. Y.* [We invite the observations of our correspondents. Plaster has mostly proved beneficial to wheat when sown in spring, but has done better by autumn application. We have no knowledge of the results when used on barley. Its greatest and most striking effect is on clover.]

QUESTIONS.—1. Can any of your readers give the rule for *framing* braces—for example, a brace 3 feet long, where must the mortices be in the post and beam? 2. What is the rule for finding the number of square feet in saw-logs? 3. Which pays best, to burn your wood into coal, or to sell by the cord when you can get $2 per cord for wood and $6 per 100 for coal? 4. What will do to mix with night soil to prevent the effluvia from arising, and what way pays best to use it? 5. Would cement placed around fence posts prevent their decaying? 6. Does not manure pay better on wheat ground than on corn? 7. Is it best to give colts a little oats the first winter? J. T. H.

DRAINING.—I wish to get some information in regard to ditching, through your columns. In ditching last fall, I laid a tile drain across the lower end of an old stone drain. I put in three inch tile, which I thought sufficient to carry off the water, but there seems to be a difficulty in so much water getting through the joints of the tile, and therefore it rises to the top. I would like to get information from JOHN JOHNSTON or some one who has had experience in this matter, as I can find nothing in anything I have read yet to enlighten me on the subject. Also I wish to know how to fix the upper end of a drain made to carry off a large pond, so that the dirt will not wash in and fill up the tile. E. SCRIBNER. *Clinton Co., N. Y.* [We are unable, from the description of the difficulty given, to understand exactly its nature. Does the water *pass out* through the joints somewhere below the place of its entrance? If so, then the descent is either insufficient at that spot, or there is obstruction below. If the water rises to the surface after it discharges from the stone drain and because it cannot get into the tile, then openings must be made into the sides of the tile large enough for this purpose, as is

always done where a common tile enters a main drain, as shown in the annexed figure. To prevent sediment entering a pipe, make a well or cistern; let the water run into it and out again into *the* pipe *near the top*, which allows all the sediment to fall to the bottom. Gravel or fine stones alone will sometimes do.]

[For the Country Gentleman and Cultivator.]

Some Good Things---with a Reason.

MESSRS. EDS.—It is a good thing for every one who owns or occupies forty rods of ground, to take an agricultural paper—one that gives the most practical and reliable information—for it often happens that a hint or suggestion received, is worth more than the paper costs.

It is a good thing to preserve the papers, and at the end of the year, either have them bound or stitch them together—for they are often useful to refer to.

It is a good thing for those who write for such papers, to use plain intelligible language—for many of their readers may not understand Greek.

It is a good thing when one has a hobby, not to ride it too hard—for it may wear out before others are ready to take a passage.

It is a good thing for those who are inclined to try experiments, or to adopt some new theory, to move cautiously—for the world is full of humbugs.

It is a good thing for a man to oversee all his work, especially attend to the details—for PAT is very apt to slip over many things that should be done.

It is a good thing to be neat and tidy about one's premises—for it is pleasing to the eye, and is desirable every way.

It is a good thing to be neat and tidy about the barn—to have the stables kept clean and the cattle mangers cleaned of orts at least twice a day—for this will add much to their health and comfort.

It is a good thing to see that fodder is not scattered about under foot—for cattle do not relish their food after it has been trodden upon with dirty feet; much is often wasted in this way.

It is a good thing to let cattle have access to water twice a day—for if watered but once they are apt to drink too much, and thereby become chilled and uncomfortable.

It is a good thing to card cattle every day—for it promotes health and gives them a pleasing appearance, and it is a luxury they enjoy much.

It is a good thing to keep all animals thriving, or at least not suffer them to fall away in flesh during cold weather—for all they lose in flesh is a dead loss to the owner.

It is a good thing to furnish the hog-pen with a plenty of straw and litter—for grunter will manufacture it into the best of manure, besides, a warm nest will make him comfortable, therefore cause him to thrive.

It is a good thing to keep manure in snug piles—for it will leach less by the melting snow and rains.

It is a good thing to increase the manure heap in every possible way—for it will give a larger dividend than railroad or bank stock.

It is a good thing to draw out manure the latter part of winter, or early in the spring—before the frost is out of the ground—for it is easier done then than later, and it injures land to go on to it with a team when soft.

It is a good thing to keep farming tools in order, for it often saves great vexation and loss of time, when wanted for use.

It is a good thing to have a place for everything, and everything in its place, for it is trying to the flesh to be obliged to hunt for scattered tools.

It is a good thing to have a year's stock of wood at the door—sawed, split and seasoned—for it is bad economy, to say nothing of discomfort, to burn green wood.

It would be a good thing for those who practice burning green wood—drawing and cutting it as wanted—to let their wives wear the breeches—for quite likely they would be the most capable of managing affairs.

It is a good thing sometimes not to say all you have on your mind at once—lest a painful silence ensue—therefore, finally,

It is a good thing to "be subject unto the powers that be"—to love our country, and to live peaceably with all men—the reason is obvious. J. L. R. *Jeff. Co., N. Y.*

[For the Country Gentleman and Cultivator.]

MULCHING---SURFACE MANURING.

From the best experience and observation which has come to my knowledge, it is clearly evident that no one operation in farming is more advantageous than *surface-manuring*, or top-dressing—for almost all crops—while it is the cheapest mode of manuring.

First—for Meadows.—I had a small timothy meadow of about five acres, which had been mowed many years, until it would not produce one ton the acre, and so spindling it could hardly stand up before the scythe; but during early winter about half of it was spread over evenly with a liberal coating of barn-yard manure; this protected the roots of the grass during the freezing and heaving, and bleak winds of winter, so that wherever there was any cracking open or heaving of the ground by frost, the finest of the manure fell into them, not only protecting but enriching the grass; this is one benefit. Then, the spring thaws and rains drenched the manure and carried it into the soil, before the sun was hot enough to evaporate it much, which gives the grass a vigorous healthy start; this is the second benefit. Again, this *mulching* shelters and protects the young grass and roots, still later in the season, from the hot sun, before the grass is grown enough to shade itself, and this is a third benefit to the meadows—while there are still others, such as keeping the land mellow, moist and loose during the season.

Second—for Corn and Potatoes.—Let the ground be covered with a good liberal coating of half or full-rotted manure, either before planting or after the crop is fairly up, and the ground will be kept mellow and moist—never suffering from drouth—and the weeds will be kept down, so that hoeing and cultivating can be dispensed with—while the time required to do this mulching well and carefully, will be less than that to hoe and dress it well; then the manure will be finely and gradually drenched to the roots by the occasional rains, in about such quantities as will handsomely stimulate and nourish the plant, continually, to a vigorous growth; while this manure will not begin to evaporate enough to be wasted, before the crop will have grown sufficiently that the leaves will absorb and profit largely by this escape of ammonia from the manure; for the successful fruiting of crops need to appropriate liberal supplies of ammonia and other gases, more by their leaves above ground than by the roots below—it being more their office to seek and take up the requisite minerals. At least such has been my experience, having invariably obtained the best yields of corn, potatoes and grass from lands thus mulched or manured, and that, too, where the corn and potatoes were not hoed or cultivated at all after planting; while I have never known a corn or potato, or grass field thus treated, to suffer in the least from drouth, even in the driest seasons, as it not only prevents the escape of the moisture already in the earth, but also absorbs and retains the dews and mists of night. These are no vague notions, but well settled facts. Not only will time be saved and the labor be made easier by faithfully and extensively practicing this top-dressing, but larger and more certain yields of crops will result from it, *and the soils remain longer in tilth.*

Third, for Wheat.—These beneficial results will be equally certain and liberal in the raising of wheat, particulaly if winter wheat be sown—and winter-killing will be almost totally prevented thereby. Let the manure be spread as soon as the ground is frozen; then if the ground is likely to crack by freezing, the manure fills in and protects the roots; nor can the winds dry and drift the soil—laying bare the roots—as in the case of our prairies more particularly. D. S. C. *Madison, Wis.*

☞ Mr. THOS. WOOD of Penningtonville, Pa., whose advertisement of Chester County Pigs appears in another column, informs us that a pig of the Chester Co. breed sold by him to Patterson Moore of Western Pennsylvania, two years since, was recently killed, and the dressed weight was 990 lbs., as he is informed by Mr. Moore.

THE CULTIVATOR.

ALBNAY, N. Y., FEBRUARY, 1861.

THE YALE AGRICULTURAL LECTURES.—As we go to press, we learn from Prof. PORTER, that apprehending the effect of the present state of the country in diminishing the interest and usefulness of an agricultural convention, it has been decided to *postpone a repetition* of the "Yale Agricultural Lectures" to another year. The regular lectures of the Scientific School on Agricultural Chemistry and the general principles of Agriculture, will be given as usual, commencing Feb. 1st.

NOTICES OF IMPLEMENTS AND MACHINES.—In order to prevent misunderstanding on the part of some, we distinctly state that none of the notices which appear in this paper, recommending new implements or machines, are inserted for compensation. They are invariably made from actual observation or personal trial, or from careful examination on the part of the editors. We have made many trials of this kind, attended with considerable labor and trouble; and manufacturers in order to facilitate such experiments, have freely furnished the implements. But we have always accepted them for this purpose, with the express understanding that we should report honestly and faithfully to our many thousands of readers, our opinion of the value of each; and if any did not promise to be worthy of commendation, no sum could induce us so to impose upon our readers as to attempt to induce them to purchase what we believed would result in disappointment. At the same time, it always gives us pleasure to assist the progress of what will obviously prove of value to farmers; and if manufacturers will furnish us, we shall in future endeavor to give the public a faithful and impartial report.

☞ In another Note we have given some figures to show how large a business the Farming of the West creates for the city of Chicago. The Albany Evening Journal has compiled a table exhibiting the Commerce of the Erie and Champlain Canals of this State during the season of 1860—giving the total quantity and value of every article coming down through the channel of these important Public Works to tide water at the Hudson River. We should be glad to publish the table at length if our limits would permit, but a more condensed statement will suffice to give an idea of the amount of Agricultural Produce that seeks a market in this way, and of the amount of business it must create for other classes in the community after it leaves the Farmer's hands.

Classed under the distinctive head of Agriculture, we have

Product of Animals,	$2,766,604
Vegetable Food,	48,183,034
Other Agricultural Products,	284,240
Total value,	$51,233,878
To which may be added, Live Cattle, Hogs and Sheep,	216,865
	$51,450,743

Of this aggregate, some of the larger items are worth specifying in round numbers. Among "Products of Animals," there is over a million dollars worth of Cheese, nearly half-a-million of Butter, and almost a million of Wool—the other items being barrelled Beef and Pork, Bacon, Lard and Tallow, and Hides. In the list of "Vegetable Food" we have about twenty-two millions of dollars in Wheat, and seven millions more in Flour; twelve millions and a half in Indian Corn; two millions and a quarter in Barley, and two and three-quarters in Oats—the other items consisting of about $400,000 worth of Potatoes, and still smaller amounts in Rye, Bran, and Peas and Beans. The "other agricultural products" include about $132,000 in Hops, and the remainder in small amounts of Tobacco, Hemp, Cotton and Seeds.

For purposes of comparison with the foregoing, we may add that the *Forest* contributed $11,580,117 to the Commerce of the Canals, mostly in Boards, Scantling and Staves; *Manufactures*, $5,321,367, in which the largest items are over two millions for Leather, and a little short of two millions more for Pig, Bloom and Bar Iron; *Merchandize* $4,653,345, and articles not classified about seven millions and a half—making a grand aggregate of $80,458,585—of which as we have seen the toil of the Farmer creates more than *five-eighths*, aside from whatever share he has had in the original production of many of the Articles here classed as Manufactures or Merchandize.

☞ As our readers are already aware, Mr. RAREY, of Horse-Taming celebrity, has returned to this country. He gave three exhibitions at New-York last week which were largely attended, and, judging from the published reports, appear to have given general satisfaction. We have not the space at present to copy an account of his proceedings—but one remark which he is quoted as having made, illustrates so concisely his great aim in the management of the Horse and the true theory of accomplishing it, that it may be borne in mind with profit by every farmer who has a colt to raise: Mr. RAREY said that "a horse has no natural vices, but simply those he learns from man in the process of breaking. He does not know his strength until he has gained an advantage over us in a contest for supremacy; but, once learned, he never forgets it. Hence our "breaking" should be such that we have control from the beginning, and never lose it. A young colt should never be rudely approached in the pasture, but he should be suffered to come to us, feel our person, and gain confidence; and this much gained, our whole management should be gentle, deliberate, and perfectly planned."

☞ The Chicago Tribune publishes a tabular statement of the exports of that city in flour, grain and provisions, and other leading country products, during 1860. The gross amount as compared with the two preceding years is as follows:

Total value in 1860,	$33,737,489.88
Total value in 1859,	24,280,890.47
Total value in 1858,	19,928,495.83

Among the items making up this total of nearly thirty-four million dollars, the largest are worth quoting:

			Value.
Wheat,	bushels,	12,487,684	$10,864,295
Flour,	barrels,	713,339	3,210,025
Corn,	bushels,	13,743,172	6,184,427
Oats, Rye, Barley and Seeds,	bushels,	1,576,984	834,756
Live Hogs,	number,	133,612	1,603,344
Dressed Hogs and Pork,			1,633,760
Beef Cattle,	number,	104,122	3,123,660
Beef and other "Cut Meats,"			1,914,932
Lard,	pounds,	9,150,899	1,006,598
Hides,	pounds,	11,609,345	1,160,934

Add to these not quite half a million in "High Wines" and Alcohol, about two hundred thousand dollars each of Broom Corn and Butter, three hundred thousand each of Tallow and Wool, and we begin to understand how AGRICULTURE can make Cities grow! The only item in the whole table for which Farmers are not directly responsible is $600,000 worth of Lead. But it should be added, according to the same paper, that a considerable export trade, under the general head of "Merchandise," is not included in the foregoing exhibit. The excessively high rates of freight, also, are said to have reduced the aggregate about one-sixth.

OLD CORN FOR PORK-MAKING.—J. M. Conner, in the New-Hampshire Journal of Agriculture, gives some valuable hints on fattening swine, from which we clip a single paragraph: "The practice of late fatting and feed on soft corn is a ruinous one. Every farmer should manage so as to keep a year's stock of corn on hand, so as to make all his pork from old corn. It is worth from 15 to 25 per cent. more than corn just harvested. Hogs should not be kept half-starved through the latter part of summer, waiting for the new crop as is frequently the case."

EFFECT OF A CLAY SOIL ON WOOL.—In an extended notice of the sheep farm of Dan'l Kelly, Jr., of Wheaton, Ill., the remark is made that Mr. K. after traveling extensively, "selected this locality because of its elevation,

its capacity for thorough drainage, and because it was apparent to him that a good thick, compact sward could be obtained." The soil is a black prairie soil with a clay subsoil. This was also considered. He not only does not want sheep on a *bare* soil, but thinks a clay land which bakes is not a good soil for keeping blooded sheep. It absorbs the oil. He would not let them lie on a clay soil even though feeding them on such land.

☞ "The friends of agriculture in New-York, will recollect that the annual meeting of the State Agricultural Society will be held at Albany on the 2d Wednesday of February next."

— So, we find on turning to an old volume of the CULTIVATOR, we wrote just *twenty years ago* the present month, and the notice may be quoted *verbatim*, at this time. "The interests of agriculture," we continued, "demand a full and explicit expression of the will of the great mass of farmers in the State; * * * New-York can, if she will, have a State Society second to no Agricultural Society in the world; let the meeting of February demonstrate that she both can and will."

It is interesting thus to revert occasionally to the past, and place the expression of recorded hopes, side by side with the event as since developed, wholly or in part, by the hand of Time. The position now occupied by our State Society, we may best leave for others to judge; but it is not improper to venture a single wish, based upon the foregoing remarks as uttered a score of years ago—and this wish is that "the great mass of farmers in the State," *would* individually show a still greater interest in its proceedings and welfare,—by attending in larger numbers its Winter Meeting, by still more general competition for its prizes, by regarding its exhibitions rather in the light of the useful lessons they convey, than in that of the recreation they may be made to yield. All parts of the State should feel an equal pride in its successes, and take an equal interest in its management,—as they should also share, as equally as we trust they do, in the benefits it confers.

☞ After visiting the district of Massachusetts, infected with PLEURO-PNEUMONIA, in June last, and obtaining there and from other sources what information we could upon the subject, we gave in the COUNTRY GENTLEMAN (vol. xv, p. 400,) the conclusions to which we were led; and, after their appearance, and the publication shortly afterward of similar views on the part of the Executive Board of our State Agricultural Society upon the character of the Disease,—comparatively little more was heard of it in public—except perhaps an occasional prophecy of its re-appearance with the return of cold weather, an event which has not occurred, and which never seemed to us in the slightest degree probable.

The Report of the Massachusetts Commissioners has now appeared, and in default of a complete copy of it, we have read with interest an abstract published in the last N. E. Farmer. It does not seem—judging from this abstract—to go beyond the points set forth in our own conclusions, the correctness of which it confirms—except in pronouncing the disease "always" and "hopelessly incurable," a position which may or may not be fully established.

Our object, however, in now referring to the subject, was mainly to point out what immensely exaggerated ideas of the prevalence of the disease were disseminated throughout the country—not only creating unnecessary alarm and therefore matter of regret, but absolutely reducing the value of common neat stock and obstructing the sale of improved, well-bred animals to a remarkable extent—thus touching the pockets both of farmers and breeders in almost every part of the country, and impeding by just so much the course of trade and the improvement of our herds. The Commissioners, it seems altogether—in the several months during which they were actively occupied, killed 892 head, to which are to be added 5 head killed by medical examiners—total 897. Out of this number *less than two hundred head were pronounced diseased*, (188,) while the other *four-fifths*, or thereabouts, were pronounced entirely sound and healthy!

The question will arise in other States whether our Massachusetts friends were not "more scared than hurt," and yet we cannot but feel, as we have said before, the same indebtedness to her State authorities for their public-spirited action, that would have been due to them if the foundation for popular apprehension had really been greater than it was.

PRICES OF HORSES IN ENGLAND.—Among the more important Fairs for the sale of live Stock so common in Great Britain is the great Horse Fair regularly held at York the week before Christmas. From the report of sales at this Fair, the present season, it appears that foreign dealers and gentlemen avail themselves of the occasion as well as those from distant parts of the United Kingdom. An officer of the Royal Artillery was present during the week, making purchases for the army. Mr. Vandelin, a foreign dealer, also possessed an extensive commission, and he secured eight fine stallions for exportation to Italy. He also purchased other classes of animals for a similar purpose. Hunters were disposed of at prices varying from £100 to £400, the latter figure for "horses of celebrity and up to heavy weight." Horses described as well-bred upstanding young horses, with great action, suitable for private carriage purposes; selections of match colts, of good fashion, and grays or bays; and active, light stepping horses, adapted for brougham or light carriage work," are all priced at from £70 to £100; useful, fast-going animals, for single harness, £40 to £50; thick-set, short-jointed young horses, for hackney work, £26 to £30; well-framed, powerful, light-legged young horses, for van or railway work, £30 to £40; cover hack and roadsters, £30 to £40; well-bred galloways, £10 to £20; neat-going, compact-built cobs, £40 to £50; weight-carrying, handsome cobs, £60 to £70; neat young ponies, £10 to £20; ditto, well-matched pairs, £15 to £25 each; well-timbered, active young cart horses, suitable for London work, £20 to £40, according to merit. Matched teams of fast-walking young horses, £25 to £48; useful seasoned horses, for agriculture purposes and machine work, £28 to £37; two-year-old cart horses, £15 to £20; yearlings, none shown; blood stock, none on offer; stallions, from £200 to £400.

☞ The neatest possible little EAR OF CORN came to us in a letter the other day from our friend M. W. PHILIPS, Esq., of the far off State of Mississippi. It is 12-rowed, a fraction over 3½ inches long, and about three-quarters of an inch in its largest diameter. A hasty computation shows that its purple kernels must be nearly 500 in number, and, cob and all, it weighs a plump half ounce. Mr. PHILIPS calls it "Brazilian Pop-corn," and informs us that his crop of it this year consisted of only 29 stalks—that these stalks however produced *two hundred and fifty ears* in a season excessively dry, and that on one stalk alone there were no less than *twenty-five* ears. It is the *prettiest* thing of its kind we have seen, and shall have a trial when the summer comes.

☞ THE YOUNG FARMER'S MANUAL, by S. EDWARDS TODD, was accidentally advertised in our columns at $1. The Publisher's price is *One Dollar and a quarter*. We have borne the consequences of our error in filling orders hitherto received at the price thus erroneously given, but those sending for the book hereafter will please bear in mind that the price is $1.25, for which amount we will send it postpaid.

HOW TO ELEVATE FARMERS AND FARMING.—A gentleman in sending us a club of subscribers from New-Hampshire, remarks—"I have for many years thought that the best way to make farmers and farming respectable, and bring them up to the position they should occupy, is to circulate agricultural papers and publications of a high moral tone. Yours I think are the best published—for that reason I am willing to do mission work for them."

Condensed Correspondence.

LONG VS. FINE WOOLED SHEEP.—I have just read an article in "Ohio Ag. Report for 1859," in which the writer claims the superiority of coarse wooled sheep over fine wool in many respects, some as follows—will live on coarser food—need less care and less protection from the storms of winter—will raise more lambs and have them drop earlier—far less liable to be injured by dogs, because less timid—can be kept profitably on high priced land, while fine wools cannot, &c. Are these things so? Will some one who has had experience answer. H. C. *Ohio.*

GARNET CHILI POTATO.—Of 58 varieties of potatoes cultivated the past year, the *Garnets* excel in all the desirable qualities of a potato—productiveness, hardiness and quality. A new seedling from Rev. C. E. GOODRICH, called the "Central City," yielded remarkably, and bids fair to take the lead of the white varieties, as the Garnet does of the colored. C. W. G. *Holden, Mass.*

CHINA PIGS.—The inquirer for China Pigs does not mention which variety he wants. I have the pure bred China pig from a direct importation. They are black—no hair—very plump—large flabby ears, short head and snout—head all full of wrinkles down to nose, and very prolific—will breed at three to four months old—don't exceed over 250 lbs., but excellent family pork. There is also a White China pig with short pricked up ears—they are very small. CHARLES HUGHES. *Three Rivers, C. E.*

A SUGGESTION.—A specification of the work to be done, and the manner in which it should be done, together with the form of contract, &c., if it accompanied any one of your plans of houses, would enable any of us back country folks to draw up an agreement properly when we wished to let work by the job. There was a very nice little work published in England, in numbers, containing two plans each of houses, with ground plans, elevations, sections and details, specifications, form of contract, and everything necessary to put into the hands of the carpenter, that he may do his work completely. My memory, however, has failed me, and I cannot give the name of it.
Shipton, C. E. RUSTICUS.

AG. READING FOR BOYS.—My father took the Albany CULTIVATOR for the year 1842. In the winter, a year or two afterwards, while yet a boy, I read the whole volume through by wrote. Papers were very scarce in our country at that time. Had they been plenty as now, I would not probably have read the CULTIVATOR so thoroughly as I did. That reading had a great influence on my mind. It gave a taste for agricultural literature, which has ever been strong and increasing since that time, and which I would not be without for much money. J. M. H.

THE COUNTRY GENTLEMAN.—A few days since, while in the store of my old employers in Boston, a young man, who was a fellow salesman twelve years since, asked me, "What is the best Agricultural Paper for me to take?" I unhesitatingly replied the COUNTRY GENTLEMAN. If he derives as much benefit from the GENTLEMAN as I have done, he will find it the best investment he ever made.

I have noticed in your paper, various methods of preserving the numbers for future reference. I will give my own, which if it is not so economical, is more convenient than some others. As soon as I have read them, I lay them carefully away, smoothing out the folds, and place a bound volume upon them to keep them in shape. At the close of a volume, take them to the binders and get a good strong paper (board) cover, with leather back and corners, properly labeled and numbered, for which I pay 50 cents, or one dollar a year, giving me two handsome books for $3, worth at least double any $3 publication with which I am acquainted." C. W. G. *Holden, Mass.*

☞ I think the COUNTRY GENTLEMAN the best agricultural paper with which I am acquainted. D. M. N.

TIME FOR READING. — An Onondaga correspondent writes to the Co. GENTLEMAN as follow:—"I have been unsuccessful in adding to your subscription list in this neighborhood. Some *disbelieve* in book farming, and others say they have *no time to read.* So the world goes. With the help of two sons I take care of 50 head of cattle, 6 horses, 70 sheep, 19 swine, and lots of poultry, and keep a team at work daily in drawing logs and wood. Besides this, I take the Daily Globe, Daily Standard, Semi-Weekly Tribune, Onondaga Gazette, Philadelphia Post, Harper's Magazine, New-York Mercury, COUNTRY GENTLEMAN, American Agriculturist, and Genesee Farmer, and find time to read them all except the Post and Mercury—those belong to the younger members of the family. This pretence of having no time to read is, to say the least, merely a subterfuge. Every person who wishes to improve his mind, can surely find abundance of time these long nights, to read several monthly papers, and weekly ones too. However

> "Convince a man against his will,
> And he'll be of the same opinion still."

Therefore there is but little use in arguing the matter with such people. J. L.

Proceedings of Societies.

UNITED STATES.—The United States Agricultural Society last week elected WILLIAM B. HUBBARD of Columbus, Ohio, President; Vice Presidents from all the States and Territories; B. Perley Poore, Secretary, and B. B. French, Treasurer. It is stated that a report was approved deprecating the practice of holding exhibitions in different sections of the country, and resolutions were adopted recommending the establishment of a Department of Agriculture by the Government.

VERMONT STATE.—At the annual meeting the Vermont State Agricultural Society, held at Rutland on the 10th inst., the following gentlemen were elected officers for the ensuing year:

President—H. H. BAXTER of Rutland.
Vice Presidents—Edwin Hammond of Middlebury; Henry Keyes of Newbury; J. W. Colburn of Springfield; John Jackson of Brandon.
Recording Secretary—Charles Cummings of Brattleboro.
Corresponding Secretary—Daniel Needham of Hartford.
Treasurer—J. W. Colburn of Springfield.
Additional Directors—Frederick Holbrook of Brattleboro; L. B. Platt of Colchester; David Hill of Bridport; H. S. Morse of Shelburne; D. R. Potter of St. Albans; G. B. Bush of Shoreham; Elijah Cleaveland of Coventry; H. G. Root of Bennington; Nathan Cushing of Woodstock; John Gregory of Northfield; George Campbell of Westminster.

The Treasurer's report was read and accepted, showing a balance in the hands of the Treasurer of $3,635.08.

THE N. H. STATE AGRICULTURAL SOCIETY elected at its annual meeting on the 26th ult., the following board of officers:—

President—W. F. ESTES, Dover.
Secretary—A. Young, Dover.
Treasurer—F. Smyth, Manchester.
Directors—J. S. Walker, Claremont; A. Holtt, Durham; J. Preston, New Ipswich; W. Harriman, Warner, and N. S. Berry, Hebron.

The annual report represents the Society in a good financial condition.

THE CONNECTICUT STATE AGRICULTURAL SOCIETY held its 9th annual meeting at New-Haven, in the new hall of the Scientific School. After the reading of the usual reports, officers were elected for the ensuing year as follows:

President—E. H. HYDE, Stafford.
Vice-Presidents at large.—R. Battell, Norfolk, and John T. Norton, Farmington.
Directors at Large.—Chas. F. Pond, Hartford Co.; Randolph Linsley, New-Haven Co.; James A. Bill, New-London Co.; Geo. Osborn, Fairfield Co.: Benj. Sumner, Windham Co.; Abijah Catlin, Litchfield Co.; Levi Coe, Middlesex Co.; R. B. Chamberlain, Tolland county.
Cor. Secretary—H. A. Dyer, Hartford.
Rec. Secretary—T. S. Gold, West Cornwall.
Treasurer—F. A. Brown, Hartford.
Chemist—S. W. Johnson, New-Haven.

After a long discussion, says the Homestead, it was voted to hold a fair, if an appropriation should be made by the legislature, to obtain which a committee was appointed.

MASSACHUSETTS BOARD OF AGRICULTURE.—This body met at Boston on the 12th ult. Reports of delegates who had attended the exhibitions of Agricultural Societies were read. Among the proceedings we note that Mr. Grinnell submitted an elaborate report on Sheep Husbandry, and Mr. Atwater one upon Root Crops, which was discussed at length. The next meeting of the Board will be held the 8th of January.

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1861 THE ILLUSTRATED ANNUAL 1861

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Jan. 3—weow3tm2t.

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Jan. 5—wtf.—Feb 1—mtf. Albany, N. Y.

TO LET.—A FARM in the town of Moreau, Saratoga county, of about 500 acres, 200 of which are in wood—with a large and convenient house and all necessary outbuildings, including four barns. It is situated on the bank of the Hudson river, within one mile of the village of Fort Edward, and five of the village of Glens Falls. The station house of the Saratoga and Whitehall railroad is on the premises—thus affording every facility for market. To a person of sufficient means to stock the farm, and who will have some pride in keeping it in good order, favorable terms will be given. Address the subscriber at Moreau Station. W. H. WARREN.
Sept. 26—weow6tm3t.

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WILL TELL YOU Of the causes, symptoms, and Treatment of Worms, Bots, Colic, Strangulation, Stony Concretions, Ruptures, Palsy, Diarrhœa, Jaundice, Hepatirrhœa, Bloody Urine, Stones in the Kidneys and Bladder, Inflammation and other diseases of the Stomach, Bowels, Liver and Urinary Organs.

THE HORSE AND HIS DISEASES

WILL TELL YOU Of the causes, symptoms, and Treatment of Bone, Blood and Bog, Spavin, Ring Bone, Sweenie, Strains, Broken Knees, Wind Galls, Founder, Sole Bruise and Gravel, Cracked Hoofs, Scratches, Canker, Thrush and Corns; also of Megrims, Vertigo, Epilepsy, Staggers, and other diseases of the Feet, Legs, and Head.

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WILL TELL YOU Of the causes, symptoms, and Treatment of Fistula, Poll Evil, Glanders, Farcy, Scarlet Fever, Mange, Surfeit, Locked Jaw, Rheumatism, Cramp, Galls, Diseases of the Eye and Heart, &c., &c., and how to manage Castration, Bleeding, Trephinning, Roweling, Firing, Hernia, Amputation, Tapping, and other surgical operations.

THE HORSE AND HIS DISEASES

WILL TELL YOU Of Rarey's Method of taming Horses; how to Approach, Halter, or Stable a Colt; how to accustom a horse to strange sounds and sights, and how to Bit, Saddle, Ride, and Break him to Harness; also the form and law of WARRANTY. The whole being the result of more than fifteen years' careful study of the habits, peculiarities, wants and weaknesses of this noble and useful animal.

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J. Ingersoll, Ilion, N. Y.
Wm. Summer, Pomaria, S. C.
R. C. Ellis, Lyons, N. Y.
Col. A. J. Summer, Long Swamp, Florida.
A. J. Bowman, Utica, N. Y.
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We are also manufacturing Sayre's Patent Horse Hoe and Potato Covering Machine, Sayre's Patent Cultivator Teeth in quantities for the trade; and all kinds of steel and swage work in the agricultural line. Send for a circular. SAYRE & REMINGTON,
Jan. 26—wtf Mar. 1—mtf. Union Agricultural Works, Utica, N. Y.

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Jan. 17—w16tm4t. D. L. HALSEY, Victory, Cayuga Co., N. Y.

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TO NURSERYMEN, &c.

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